PRACTICE OF OSTEOPATHY

ITS PRACTICAL APPLICATION TO THE VARIOUS DISEASES of THE HUMAN BODY

Third Edition. Revised and Enlarged

ILLUSTRATED
WITH
121 HALFTONE
ENGRAVINGS

BY

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ALL FOR THE OSTEOPATHIC PROFESSION

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Preface to the Third Edition

When after the brief space of two and one-half years I had the pleasure of being informed by the publisher that a third edition of my Textbook of Practice of Osteopathy was called for, I resolved to make it in every respect as perfect as was in my power. The entire work has been carefully and thoroughly revised, considerable new material has been added, bringing the work up to date and fully in the forefront of all recent but proven investigations. Many new illustrations have been added.

By these improvements I have tried to make the book worthy of the kind reception accorded it by the Medical and Osteopathic profession and the medical press. The second edition was largely taken by Osteopaths. The writer has been pleased with the way medical doctors have been successful in obtaining splendid results from the treatments herein described.

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Preface to the First Edition

Osteopathy was born in the fertile mind of Doctor Andrew Taylor Still in 1875. Like other good gifts from God it bears evidence of being sent by Divine providence. Drugs having proven of no value in serious cases in the doctor's own household he was led to look for something better. Osteopathy had its necessary growth and development amidst surroundings that tested its right to existence at every step. The science withstood the fire of merciless criticism, but the scientific truth, that God made the human machine perfect, and as long as it is kept in order it will perform its proper functions and keep in good health to a ripe old age, came out more than conqueror.

No one but Doctor Still and his devoted family will ever know the hard and bitter struggle, when deserted by many relatives and friends he bore the brunt of the battle which was waged after he stepped out of the medical profession and declared for Osteopathy.

So successful was he in curing those whose diseases had resisted all other forms of treatment that he was compelled to teach the science that others might treat suffering humanity.

There have been a number of other schools started, both East and West, which have also been send-

ing out graduates until thousands of practitioners are now practicing the science in the United States, and there are representatives in nearly all parts of the world. So the work has grown and prospered and is rapidly making its impress felt for good among all schools of healing.

While the above is true, those in the field can not do a tithe of the work that is necessary. Many in the smaller towns and in the country must go without the treatment, while very many are attempting to practice who know comparatively little of the science.

The object of this work is to meet this very urgent need on the part of practitioners of all schools, and to present the practical side of Osteopathy in a very plain and simple manner.

To the many practitioners of the science who have not taken the regular work in colleges, yet who will continue to practice, it will prove of the greatest value. While the work does not deal with the theory of Osteopathy to any great extent, the practical side of the science is presented and emphasized in such a manner as to be of great assistance to medical doctors who have not time nor the inclination to take a regular course in Osteopathy, and who will here receive a knowledge of the science that will be of value to them and to their patients.

Thousands in every walk of life will be helped by the general treatment as indicated in this work. They will live longer and feel more like living while

they live if the various ligaments of the spine and joints are not allowed to become hard and stiff and short, thus creating a tension and stiffness in parts that should be soft and pliable to permit a good nerve supply and circulation.

The author believes that all that is good in medicine should become common property; that there is too much ignorance among the people concerning the healing art. He fully believes that Osteopathy is the very best in medicine, and in helping to make its use more universal he is helping humanity.

Chas. H. Murray.

Elgin, Illinois.

PRACTICE OF OSTEOPATHY

OSTEOPATHIC TECHNIQUE

The most important part of osteopathic procedure is the examination of the patient, the determination of the lesion, the discovery of what is wrong in the human building. In some cases nature has taken care of a former abnormality of structure, and then what was once abnormal has become normal. An attempt to make a forcible correction of the apparant abnormality would lead to trouble. In some cases most serious results would ensue.

In other cases, where the real lesion is not discovered, months of routine treatment would be worse than useless and might be a detriment rather than a help to the patient. So we say the first thing and the most important thing to do is to make a careful and painstaking examination of the patient.

If there are no marked osteopathic lesions, the disease in question having been brought on by overwork or abuse of function, as overeating or drinking, there are certain definite areas in which the Osteopath works, and by securing a better nerve and blood supply hastens the recovery of the patient. This is especially true in cases of sickness induced by the various specific microörganisms which are the exciting agents of a long list of

acute diseases, as pneumonia, la grippe, typhoid fever, scarlet fever, measles, chicken pox, mumps, whooping cough, diphtheria, erysipelas, tuberculosis, etc., etc. Even in many of these diseases there are predisposing lesions that weaken certain areas of the body and permit the entrance and growth of these exciting organisms.

Yet in these very regions in which the Osteopath works to help recoveries there are, in a majority of cases, lesions of muscle, ligament, and of the bony structure as well, which have been induced reflexly. The abused organs or the diseased organs have sent nerve impulses to the cord, and they have sent them in such large numbers that they have in turn been sent out to the muscles and other structures lying in close proximity. A muscle is tense in proportion to the number of nerve impulses communicated to it. These abnormal nerve impulses, long continued, have produced contractures; these in turn, by pulling on the bones to which they are attached, have produced bony lesions. Some of these bring pressure to bear on the spinal cord and other structures, and in this manner aggravate the disease.

For the beginner in Osteopathy it will be better to have the back of the patient bare. If the patient is a lady, a gown or kimono may be worn which opens in the back. A suitable kimono for taking the treatment is illustrated in Fig 2. After the operator has had some experience he will readily examine the spine of patients through the gar-

ments, the under clothing at least. As a general thing we know very little about our own bodies. Many are more conversant with the normal cow, horse or hog than with the normal human body. It will be an excellent thing for the one who expects to make a vocation or even an avocation of Osteopathy to study carefully the normal body. Study a number of them. Become thoroughly acquainted with the normal body, and especially with the normal spine. In this way you will be all the more readily able to detect the abnormal.

The practitioner should study the various degrees of motility of the spines, joints, necks, backs, etc., of normal individuals. He should learn the various degrees of tension, tenderness, and pliability of the various muscles of persons in health. A knowledge of anatomy and physiology will be very helpful.

Lesions. It is not every vertebra that is out of line laterally, or deviates anteriorly or posteriorly, that may be said to be out of position in such a manner as to constitute a lesion. Before we can say that a deviation of such a character constitutes a lesion it ought to produce some pathological condition, or ill feeling of some kind. There should be some change in color and some temperature near the abnormality. There should be some contraction in the muscles and ligaments. There should be some inflammation, or a congestion bordering on inflammation, near the seat of lesion. There will be pain in nearly all recent lesions. Pain will be present on pressure. In some conditions the

muscles in close proximity will be slightly swollen and have a rigid feeling when worked over with the hand. It will be always safe and beneficial to manipulate the spine, ribs, ligaments, muscles, and other tissues, but do not attempt to correct a misplaced bone until it is known to be out of place in such a manner as to cause pressure, or is forming an obstruction that is causing some illness. Never manipulate a tubercular joint or spine. Do not cause pressure on lymphatic glands.

Since the publication of the second edition of this book, doctors who are doing research work in Osteopathy are of the opinion that pressure on nerves resulting from vertebral displacements is not a cause of disease. This view is in harmony with the author's experience, with one exception, and that is in those cases where a vertebra or vetebræ are misplaced anteriorly. This allows pressure to be exerted upon the spinal nerves as shown in Fig. A. In backward displacements the spinal foramen is made larger, and there can be no pressure exerted on spinal nerves. This is especially true in those cases where Pott's disease exists and there is a backward displacement of the vetebræ amounting to deformity. See Fig. B.

Disease and disturbances of the circulation are not, as is generally believed by Osteopaths, caused by arterial or venous obstructions occasioned by misplaced vertebræ. Vertebral displacements and an obstructed circulation have been the two great points which Osteopaths have kept before the public. They have believed this, and acting on this belief, in attempting to

adjust vertebræ have done much harm to suffering humanity. I want to show later how the best results may be secured from Osteopathy, or mechanical treatment, with no danger of injury to the patient.

The real lesion, or spinal abnormality, when it exists, is in a tightened vertebral joint or series of such joints. The ligaments binding such vertebræ together have become shortened. The inter-vertebral substance becomes thinner and is frequently absent. In some cases it entirely disappears and ankylosis sets in. When a vertebral joint is not as free in its movements as it should be the adjacent microscopic tissues are involved and the flow of lymph and circulation in such structures is impeded. For this reason we claim that the real spinal lesion is immobility of spinal joints. Other joints may be affected in much the same manner.

For the above reasons we would be more explicit in giving caution to avoid harsh and severe treatment and to refrain from adjusting or attempting to adjust bones of the spine or pelvis unless we are positively certain that such apparent maladjustments are the cause of diseased conditions.

It follows that the best treatment will be directed to loosen the tightened joint or joints and so manipulate the surrounding tissues that circulation will be restored. Chiropractors have been doing their work, using a theory that is entirely wrong, but in practice they have only loosened such joints, and in that way have secured good results. They would secure better results if they paid some attention to surrounding tissues.

A Chiropractor performs his work by placing both

hands on a spinal vertebra, one over the other, enforcing it, and giving a quick thrust. The patient is in the recumbent position, and this thrust is given with the idea of adjusting misplaced vertebræ; but the only effect is to secure more mobility of the joints. Were force used sufficient to move the vertebræ serious injury would result. This has proved to be the case resulting from some treatment given by both Chiropractors and Osteopaths. Fig. No. 51 A illustrates the manner in which the Chiropractor thrust is delivered. Some have the elbow bent, and in straightening out the elbow the thrust is given. Other practitioners attempt to withdraw the hands after making the thrust to allow the vertebræ to recoil.

The effect of working on a spinal articulation with sufficient force to loosen the joint, is to stimulate the segments of the spinal cord nearest that joint, and send nerve impulses in increasing numbers over the nerves that find their origin in that portion of the cord. This nerve stimulation will be caused by any mechanical force acting on the spinal column sufficient to influence the cord.

The circulation of the blood, both arterial and venous, must be kept free. Tightened, tense muscles and ligaments, various abdominal organs out of position, as in enteroptosis, interfere with the proper circulation of the blood, lymph and nerve impulses. This quickly leads to disease. For example, when the tissues tighten in the neck from any cause, circulation is obstructed and inflammation of the tonsils, pharynx, and other structures takes place. And on account of

the stagnation of the circulation, pathological germs find a lodging place and various diseases such as diphtheria, scarlet fever, etc., begin. When there is trouble with the ears, eyes, nose or throat we may be sure that there is interference with their blood and nerve supply somewhere, and oftentimes that obstruction is in a tense muscle or ligament.

Spinal vertebræ, of course, are found out of position, but this is very seldom a cause of disease, unless such malposition is the result of a severe accident. Displacement of a vertebra sufficient to cause pressure on a nerve would be very serious, indeed, but is very rarely found.

The founder of Osteopathy is very fond of claiming that "the Great Master Mechanic left nothing unfinished in the machinery of his masterpiece—Man—that is necessary for his comfort or longevity." But if spinal vetebræ are so easily misplaced as to cause pressure on nerves and blood vessels and thus cause disease, Deity has made a mistake in designing his masterpiece—Man.

The reader must not think from the above that I undervalue the good results to be obtained in Osteopathy, or mechanical treatment, only to obtain better results than have been secured in the past we must perform our work with a view to loosen tight joints, relax muscles, ligaments and fascia, and not attempt to move bones that are not causing pathological conditions. Much good has been accomplished with the old theory as a basis, but where it has been carried to its logical conclusions harm has also resulted.

All honor to the founder of Osteopathy, even if his theory was, in part, resting on false premises.

Diagnosis, Methods of. The method of diagnosis most in vogue and the principal one which the Osteopath uses is palpation, the use of the hand or hands in determining the condition of nearly all the tissues of the body. With careful work and much practice, comparing the normal with the abnormal, the sense of touch becomes very acute, and the least difference in the density and the motility of the various tissues is readily determined. The patient should be requested to relax all tissues as much as possible and not to make any resistance to the various movements unless requested so to do. The other methods of diagnosis are inspection and percussion. With the beginner, inspection is also important, as by it he notes curvatures, unequal development of muscles, differences in the color of the skin, apparent age, height, weight, peculiarities of gait, manner of standing, sitting, etc.

Percussion enables us to learn the condition, size, shape and position of various organs, the presence of cavities, gas, tumors, etc. This form of diagnosis calls into use a small hammer, but more generally the second and third fingers of the right hand are used to strike the middle finger of the left hand which has been placed over the part to be percussed. In examining a patient it may be well to begin with the neck.

The important point in the diagnosis is to discover

the pliability and mobility of the spine. If it is too pliable there is danger of curvature. If portions of the spine are too stiff and there is not proper motion in the joints of the vertebræ it is a cause for disease. This may be determined, for the dorsal and lumbar portions of the spine, by examining as in Fig. 32; in the cervical region by examining as indicated in Figs. 14 and 15. The ease with which this movement is accomplished, together with a rotation of the head, determines the amount of pliability. By examining a few persons who are in health you can determine what the normal should be.

EXAMINATION AND TREATMENT.

In many of the descriptions of treatments which follow you might think that you were to put a bone into its proper position at once, but you will not, and it would not be best to do so. It often only results in making an articulation more pliable, which is the real object in view, looking to the ultimate result of restoring the patient's health. The utmost care must be taken not to injure a patient, which may be easily done in the case of a child or a weak person.

Special Directions for Treating. In giving a general treatment, try to do the work in twenty minutes. When you begin to practice Osteopathy it will take thirty minutes or longer to give the general treatment, but after you have practiced for a while you will feel that you are wasting time if you do not give it in twenty minutes or less. In using the shorter time you will do the work very effectively. In treating many cases you will obtain better results to give a short and very specific treatment. Not more than five minutes is necessary for the entire operation. As the founder of Osteopathy used to say, "Do what is needed and then quit." He called those who spent time in going over the entire body "engine wipers." He wished Osteopaths to be mechanics, first-class engineers, and to fix what was wrong in a workmanlike manner.

In nervous troubles and in many constitutional diseases Osteopaths have discovered that they get better results when they give the general treatment. This helps the circulation and makes a tired patient feel like new; and the treatment, after all, when there are no specific lesions to remove, is but little more than deep massage, in which nearly all the muscles of the body are manipulated.

One may give this treatment, in such a manner that many patients come to look upon it as a luxury. And many will take it when they are only slightly indisposed. Some business men take the treatment as a means of relaxation. Many others take it when they are simply tired.

In acute cases the Osteopath treats every day and sometimes more often. When the patient becomes better three treatments, and then twice per week, will be sufficient. In treating chronic cases I have obtained good results by giving the treatment every day for a week and then treating three times per week. When the patient became better, treatment was given twice per week, later only once per week. In chronic cases I found it necessary to treat my patients for three to six months, though some did fairly well after one month's treatment. A number of cases I have found it necessary to treat from one to two years. That is a long time, but results justified the time spent. In treating such cases I have found it to be beneficial to let the patient rest from the treatment for from one to three months and then begin treatment again.

Some patients do not seem to improve for the first

six months; then they continue to improve until they are well. I have had patients who did not make any visible improvement in a year. They would quit the treatment and begin to improve from that time on. That is one reason why I have found it advisable to have patients rest from the treatments for a month or more.

Office Examination. In outlining the examination of patients in the office, where by far the greater number of an Osteopath's patients are treated, I will give my own methods, which I tried in every way to simplify and was successful in doing so as time progressed.

My reception room was well lighted and kept very clean. Everything about it was bright and cheerful. The hardwood floors were well covered with bright-colored Indian rugs. There were plenty of rockers. A good supply of up-to-date popular literature, including some bearing on Osteopathy, was always on hand. There was a good library of the latest medical works.

There were four good-sized treating rooms in connection with the reception room. These contained a treating table, costumer, dresser with mirror attached, and a couch on which many of the patients rested after treatment. This added greatly to the benefit of the treatment in the cases of many nervous patients. For the ladies there were many full-length and full-fashioned kimonos, which were kept well laundered. In the treating rooms were running

water and a good supply of towels and soap. The kimonos were open in the rear, which permitted of a thorough examination of the back, which I always did on first treating the patient. The gentlemen were nearly always examined the first time on the naked back. They removed only the top shirt, and I lifted the undershirt when I wished to examine them. This permitted of a thorough examination.

The patient sitting, the examiner stands behind and notes any inequalities on either side of the neck. Sometimes one side bulges and on the other side there is a corresponding hollow. This condition indicates curvature in this region, with the convexity to the full side. On this side the tissues will be found to be hard, tense, and tender. When this condition is present it is frequently indicative of a curvature lower down. We now note whether there are enlarged tonsils, hypertrophied lymphatic glands, goiter, or any unusual pulsations or enlarged vessels.

With the patient now reclining on the back in a comfortable position, with all muscles relaxed, we proceed with the examination by palpation. The neck may be gently manipulated by placing one hand on the forehead, for the purpose of rotating it by using the forehead as a lever, while the other hand manipulates the muscles in the back of the neck for the purpose of further relaxation. In examination, as in treating, the Osteopath never rubs.

He never allows the hand to slip on the skin, but is concerned with moving all the deeper tissues.

The Osteopath now with the points of the fingers examines the tissues just beneath the skull. Often these are found tense, and the patient complains of pain here during examination and treatment. The fingers are now allowed to travel down the mid line at the back of the neck, and find the spinous processes. The first one to be felt beneath the skin is the second, or axis. The position of the first, or atlas, is rarely determined by the spinous process, though in some cases, about one in fifty, it may be found. We are able to count the vertebræ in this manner and to note their position. The seventh, or vertebra prominens, has a very prominent spinous process. It can be differentiated from the first dorsal, the one just beneath it, by rotating the head when the patient is in a sitting position and noting that the spinous process of the seventh cervical moves perceptibly while the spinous process of the first dorsal does not move.

Anterior, posterior, or lateral deviations may be determined by the examination of the spinous processes. The position of the transverse processes may be noted by turning the head to one side, moving the examining fingers up a little and to one side from the spinous process. A prominent projection will be found when the one on the other side will be found in the same manner and the fingers will then move down from one to the next process on both sides, determining the relative position of each

with reference to neighboring processes. This enables us to determine lateral deviations, twists, or torsions of vertebræ; also posterior or anterior deviations from the normal.

Osteopathic treatment of the neck is for the purpose of removing lesions, which may consist of any departure from the normal in any tissue and which is causing abnormality of function. In following the description let us remember that all patients are not to be subjected to the same routine. This is too frequently done, to the detriment of the patient. What follows is for the purpose of describing the work in detail and to describe the work necessary for the removal of the various lesions usually found. This section of the book will be very frequently referred to by the numbered paragraphs where the description of the specific treatment is referred to in the proper treatment of each disease.

1. While the patient is in a sitting position on the side of the table, the operator, standing behind, the right hand placed on top of the patient's head, rotates the head so as to bring the neck of the patient against the thumb of the operator's left hand. The left thumb is moved successively along against the arches of the vertebræ, as shown in Fig. 1. In this manner there is secured a free motion between the vertebræ, and the movement also assists in relaxing the tissues preparatory to removing any vertebral lesion that may be present.

2. The patient is sitting and the operator is standing behind, and bends the neck of the patient as far

forward as possible on the chest of the patient. This stretches the strong posterior neck muscles, including the ligamentum nuchæ.

3. The patient sitting, the operator stands in front and puts his arm about the neck of the patient, so that the bend of the elbow comes beneath the chin of the patient, and the hand grasping the base to the skull. The other hand is free to manipulate any of the vertebræ in any desired direction, though this hold is more applicable to the atlas and the axis. The head of the patient may be given a lifting motion and moved over in the required direction. See Fig. 3.

4. The scaleni muscles, the deeper ones at the side of the neck, are often tight and contracted. Pressure may be made on the first rib on the contracted side, as in Fig. 4, while the other hand bends the head forcibly to the other side, at the same time rotating the head.

5. The patient lies on his back. The operator stands at one side with one hand on the patient's forehead, the other beyond to the other side of the neck. The hand on the forehead rotates the head from side to side, alternately relaxing and stretching the muscles at the side and back of the neck, while the hand placed at the side of the neck stretches the muscles toward the operator with each movement of the neck. The hand on the neck will be moved from one position to another as the tissues relax beneath it, and the hand may be brought down onto the shoulder during the process of re-

laxation. This same treatment may be applied to all the tissues in front of the neck down to the clavicles. See Fig. 5.

6. The hyoid bone may be found just above what is often called Adam's apple, the thyroid cartilage, the largest cartilage of the larynx. The bone feels as if it were shaped like the wishbone of a chicken, minus the protuberance at the angle. While it should be freely movable it is often held tight by the muscles, the supra hyoid and the infra hyoid, attached to it. This bone is frequently drawn backward and downward, and by pressure on nerves is the frequent cause of nervous coughing and may be responsible for complete loss of voice. By manipulating the neck from side to side the thumb and forefinger may be gradually insinuated under it, and it may be lifted up and forward. The tissues all about it should be thoroughly relaxed. See Fig. 6.

7. The pneumogastric nerve may be pressed upon, manipulated and stimulated by deep pressure behind the anterior border of the sternomastoid muscle on a level with Adam's apple, as in Fig. 7. This is a very important nerve, osteopathically, owing to its large distribution to important organs. **7 A.** The spinal accessory and glosso-pharyngeal nerves may be reached by deep pressure upward and inward behind the angle of the jaw. **7 B.** The suboccipital, great occipital, small occipital, and great auricular nerves may be stimulated as in cases of fever, headaches, etc., by deep pressure on both

sides of the spine, just at the base of the skull, as in Figs. 8 and 9. The founder of Osteopathy, Dr. A. T. Still, when but a small boy, made pressure on these nerves by placing his head in a swing. See Fig. 10. He found that this pressure relieved his headache. This accidental discovery may have had something to do with his discovery, later in life, of Osteopathy. **7 C.** By deep pressure of the tissues of the neck against the transverse processes of the second and third cervical vertebræ we may stimulate the superior cervical ganglion. See Fig. **9 A.**

8. We will have occasion to refer to springing the lower jaw by opening and closing the mouth against resistance. The operator stands behind the reclining patient, with hands under the chin and at both sides of the jaws of the patient, who is directed to open and close the mouth slowly, the operator resisting. This frees the tension of muscles and allows more freedom of blood vessels below the jaw. See Fig. 11. **8 B.** In connection with the above the hands may be used to draw up the tissues under the chin. Let the movement be circular and deep. The points of the fingers are used to execute this movement. See Figs. 12 and 19.

9. The head may now be twisted as far as possible to one side without causing inconvenience to the patient; then to the other side in the same manner. We often notice in executing this movement that it moves further to one side than to the other. On the side to which it turns the least we

look for muscular or ligamentous lesions. See Fig. 13.

10. The head may be pushed as far forward as possible onto the chest, loosening the posterior muscles and other tissues far down the spine. See Figs. 14 and 15.

11. Some operators can use a very effective spiral treatment of the tissues of the back of the neck. One hand is placed on the forehead of the reclining patient, the other beneath the neck. The neck and head are both raised. The head is rotated in one direction, the neck in the opposite direction. Then the movement is reversed. See Fig. 16.

12. A number of movements have been devised to reduce atlas lesions. One has been given above as in No. 3. These movements may be used in a slightly different way for the other cervical vertebræ. The operator stands at the head of the table, the patient reclining. The operator grasps the head firmly with both hands and makes pressure with the fingers against the arch of the atlas behind. He raises the head slightly, supporting it against the body. Now as he rotates the head he presses the bone toward the normal position. See Fig. 17.

13. The neck tissues may be stretched as in Fig. 18. In some cases it will be of material assistance, in the case of light patients, to have an assistant to hold the feet of the patient, to afford greater resistance.

Many other movements in the treatment of the neck will be developed in the regular routine of

practice by the skillful operator. This will be true of every portion of the anatomy as well as of the neck.

THE HEAD.

Most of the treatment for the purpose of affecting the head is given in the neck, upper dorsal and other portions of the body. Nevertheless the Osteopath does some direct work on the head.

14. While the patient is lying on the back the palms of the operator's hands are passed from the center of the forehead each way, with varying pressure down over the temples and behind the ears. This movement has a quieting effect on the patient, soothing the nerves, and is frequently used in headaches. It affects branches of the fifth nerve on the forehead. See Fig. 20.

15. One palm is placed across the forehead and the other beneath the skull, or both palms may be placed on the forehead, one on top of the other, and great pressure exerted for a few seconds and repeated several times. See Fig. 21. This is useful in colds, headaches, etc., as it helps to relieve the pressure in the longitudinal and lateral sinuses, large veins of the brain.

16. Treat along the midline of the skull, from the nose to the back of the neck, using the thumb in a circular, pressing motion with varying degrees of pressure for the same purpose as Nos. 14 and 15. See Fig. 22.

17. We may tap with the knuckles or percuss

with one finger laid upon the center of the forehead in treating headaches, colds, etc.

18. Manipulate on each side of the nose and loosen all the tissues for the purpose of affecting the fifth nerve and freeing structures in close connection with it. See Fig. 23.

19. Use deep pressure, with a gliding movement of the little finger, to work over a portion of the fifth nerve, supplying the tear duct, for the purpose of opening it or keeping it open. Begin at the inner corner of the eye. See Fig 24.

20. The forefinger will find a little depression in the skull, just below the eyebrows, between the center and inner margins of the eye, where the supraorbital branch of the fifth nerve emerges from the skull. It is a nerve of nutrition to the eye, and passes outward over the forehead at an angle of forty-five degrees. Free the tissues about and in this little opening with a gentle, pressing, circular movement of the tip of the forefinger. See Fig. 25. Work along the nerve with the palm of the thumb. In some cases of neuralgia it will be found to be extremely sensitive, which will be greatly lessened as tissues are relaxed about it. In treating the eyes this nerve is often stimulated. The nerve may be felt beneath the skin.

21. The fifth nerve may be treated where it emerges from the skull above the eye, in Figs. 25 and 20. Also over both jaws, above and below the roots of the teeth. It may also be treated below the malar cheek bones, as in Fig. 26. It may be

treated along the sides of the nose, as in Fig. 23. Thorough treatment of this nerve is frequently necessary in cases of neuralgia.

THE EYES.

22. The fingers must be very clean as they work inside of the orbit to tone up weak or contracted muscles in cases of strabismus. The finger may be inserted deeply, yet carefully, and worked around the eyeball, both to relax and free up the tissues and to promote a better circulation.

23. The nail must be thoroughly clean as it is used to break up the little blood vessels which form a network running into the pterygia, which, if let alone, will grow towards and cover up the pupil of the eye.

24. Granulations may be broken up by crushing them between the thumb and forefinger. For this purpose, folds of the lid may be lifted up, or one finger may be inserted beneath the lid.

25. The patient, lying on the back, the eyeballs may be pressed back into the orbit several times with the palms of the thumbs and held there for a few seconds. This helps in toning up the various structures and assists in the general circulation of the eyes.

26. The palm of one finger may be placed over the eyeball and tapped, as in percussion, by the forefinger of the other hand. This acts very much as No. 25, and is useful in cases of cataract. See Fig. 27.

THE SPINE.

27. The patient sits on the side of the table and the operator notices any deviation from the normal in exaggerated curves, lateral curvature, or any number of vertebræ or a single vertebra which may be misplaced. He notes any tenderness, as he palpates with the fingers, that may be found in the tissues on either side of the spine or between the spinous processes. See Figs. 28 and 29 for fairly normal spines.

28. The tips of the spines, the spinous processes, may be noted by the red color brought out on them by swiftly passing the hand over them with some pressure. In this manner their position may be noted, thus disclosing any deviation from the normal.

29. A finger may be placed each side of the spinous processes and passed down, in this manner noting any lateral deviation from the normal. This may be done either on the bare spine or over the clothing worn in treating. See Fig. 30.

30. The palm of the hand may be passed down rapidly, from the base of the skull to the sacrum, for the purpose of noting any deviations from the normal, either posterior or anterior.

Pressure exerted on the top of the head, as in Fig. 69, will frequently reveal tenderness at some point in the spine.

31. The patient rests in the prone position, lying on his stomach, while the operator, with the palms

of the fingers, notes contracted muscular tissues, pulling the muscles away from the spine on either side. These contracted muscles often feel like small ropes beneath the fingers. See Fig. 31.

32. The limbs of the patient are flexed as he lies on his side, and the operator holds them in this position as he gently springs the spine, as in Fig. 32, noting its relaxed or contracted condition.

33. While the patient is lying on the side in a comfortable position the vertebræ are carefully examined by the fingers of the operator. Pressure is made between the spinous processes of each one, to note the condition of the ligaments and the approximation or separation of the various vertebræ. See Fig. 33. When the ligaments have grown too thick they fill the spaces and produce what is known as the smooth, stiff spine.

34. With the patient sitting on the side of the table, and the operator standing behind, he may begin the treatment of the back by placing the tips of his fingers on the patient's shoulders and with the thumbs loosen the muscular tissues in the upper part of the back. If the hands are long he can travel up and down a good portion of the back with the fingers in the above position. See Fig. 34. The fingers may now be used in relaxing all the tissues on the shoulders from the neck over the top of the shoulders.

35. While the patient is sitting the operator passes one arm over one shoulder and under the opposite arm in front. With the other hand he

makes fixed points on the spine with the thumb, against which he rotates the body with the other arm, and in this manner thoroughly loosens the structures and replaces misplaced vertebræ. See Figs. 35 and 36. The position is reversed and the other side of the spine is treated in the same manner. The patient may be held, as in Fig. 68, one shoulder braced against operator's body.

36. The patient sitting, and the operator standing behind places one hand on the top of the patient's head and with the other hand makes fixed points with the thumb along the spine, using the head and neck as a lever. The use of the hands may then be reversed and the other side of the spine treated in the same manner. The operator will be surprised with the efficiency of this movement and the power that can be exerted at any given point along the spine against the thumb by making the right pressure on the head. See Fig. 37.

37. The patient sits, preferably on a stool, and places his hands behind his neck. The operator stands behind and passes his hands under the patient's arms and takes his wrists and places one side of the flat of his knee at the patient's spine and lifts the patient up and backward against the knee. This is an efficient treatment for loosening the various articulations and stretching the ligaments which have become tightened. It stretches the spinal, scapular and neck muscles. The lower ribs are raised. See Fig. 38.

38. The patient sitting, the operator stands to

one side and behind, or kneels beside the patient on the table, and passes one arm back of the patient's neck and under the patient's arm on the other side, thus bending the patient's neck forward. With the free hand fixed points are made along the spine and the patient's body is rotated against the thumb of the operator. This movement is very effective in upper dorsal regions. See Fig. 39.

39. The patient sitting, the operator stands behind and places one knee beneath the arm of the patient in the axilla. This holds the shoulder and the ribs on that side in a fixed position. The operator may use one or both hands in raising one or more ribs or in stretching the opposite side. See Fig. 40. This may be used in combination with Figs. 46, 47.

40. The patient is sitting, and the practitioner stands behind to one side and reaching around the patient in front grasps the lower edge of any rib. With the other free hand he raises the arm of the patient on the same side as he lifts the rib. This will be helped by having the patient take a deep breath as the rib and arm are raised, then holding both as the patient expels the air. See Fig. 41.

41. The patient is sitting on a stool with the knees against the wall. The operator stands behind and places his knee on the appropriate round of the stool, with the knee against the vertebræ he wishes to correct, seizes the patient by the shoulders or under the arms and pulls the patient back against the knee, rotating the patient to make

the necessary correction of the spine. Extreme care must be exercised in executing this movement for fear of injury to the patient. See Fig. 42.

42. The patient while sitting on the side of the table is bent forward so that his head is between his knees, the operator using forcible pressure on the upper dorsal region and head. This relaxes the ligaments of the lumbar and sacro-iliac regions. See Fig. 43.

43. The patient is sitting on the side of the table. The operator is standing in front of the patient, with a pillow between himself and the patient. Both hands clasp the spine of the patient as in Fig. 44, when deep pressure may be made, sinking the vertebræ well in; then by rotating the body pressure may be made to the side wished. This is an excellent movement to correct a lateral curvature or any lateral or posterior displacement. In case of an anterior displaced vertebra the vertebræ above and below may be brought forward in this manner, thus gradually correcting the one which is anterior.

44. The position is the same as in 43 for both operator and patient. By grasping the spine firmly on each side the patient may be lifted and the spine stretched, or correction may be made in this manner when only two or three vertebræ are approximated too closely. See Fig. 45.

45. Fig. 46 shows an excellent movement in cases of spinal curvature. The side which is shortened may be stretched by using the wrist under

the patient's arm, and the hand, as shown in the figure, raises and stretches the side. The other free hand moves from point to point along the spine and forces it over into position.

46. The side may also be stretched, as in Fig. 47. Firm upward pressure may be made with the hand grasping the ribs while traction is made on the upstretched wrist of the patient.

47. The patient lies in as easy a position as possible, with the face downward, but for comfort the face may be turned to one side, with the toes extending over the end of the table. Let the arms hang over the side of the table. Have the patient relax as much as possible. The operator uses the palms of the hands in a circular, pressing movement to relax all contracted tissues of the back. See Fig. 48. With the cushions of the fingers he can pull the muscles away from the spine, as in Fig. 31.

48. With the patient lying in the prone position, the operator standing at one side of the table grasps the hip of the patient on the further side in front. The heel of the other hand can then travel up and down the spine, exerting considerable pressure while the other hand pulls the hip upward, giving the spine a torsion. The operator works from both sides. This movement is very effective in removing lesions and relaxing contracted tissues. See Fig. 49.

49. With the patient in the prone position, lying across the table as in Fig. 50, the operator stands at the head of the patient, and with the thumbs

working each side of the spine he can further relax tissues and stimulate the nerves through the spinal cord.

50. With the patient in the prone position, and the operator standing at the head of the table with the thumbs each side of the spine, as in Fig. 51, he can further relax the tissues and can also exert considerable pressure when necessary to correct posterior displaced vertebræ, or for the purpose of stimulating the spinal cord and through it the organ or organs which receive their nerve supply from any particular section of the spinal cord.

51. The patient is in the prone position, and the limbs are raised in the operator's arm, as in Fig. 52, and rotated while the other hand makes fixed points with considerable pressure on the lower part of the spine.

52. The patient is in the prone position, and pressure is made in the lower part of the spine, while first one then the other limb is raised, as in Fig. 53. This movement, as well as No. 51, assists the operator in relaxing the tissues and replacing posterior vertebræ.

53. The patient lies on his side in a comfortable position. The operator stands in front and grasps the patient's uppermost arm, as in Fig. 54. With the other hand he relaxes the tissues about the shoulders and down to the spine and pretty well down the back, using the arm as he holds it at the elbow as a lever, working it back and forth to aid in the manipulation. The spine is manipulated

and any deviations are corrected at the same time and in the same manner.

54. The tissues may be so relaxed that the shoulder may be manipulated quite freely. One hand may pull up the scapulæ, while the other presses on the shoulder, as in Fig. 55. The hand may also be insinuated under the scapulæ, as in Fig. 56, and the tissues thoroughly manipulated and loosened.

55. While the patient is reclining on the side, and one hand has made its way under the patient's scapulæ, the other hand grasps the patient on the shoulder and rotates the entire shoulder. See Fig. 57.

56. The patient is lying on his side on the table. The operator places one hand beneath the patient's neck and grasps the occiput, as in Fig. 58. The operator brings his chest against the other side of the patient's head. In this manner considerable traction may be made on the neck and upper dorsal region, and very effective corrective work may be done with the spine with the free hand as shown in the cut.

57. The limbs of the patient may be flexed and braced against the operator, who bends over and grasps the spine thus brought into relief, as in Fig. 32. The spine at any point may now be manipulated by pulling it toward the operator.

58. With one elbow on the hip, the other on the shoulder, as in Fig. 59, as the patient is lying on the side, the operator's arms may be extended,

thus stretching the hip away from the shoulder while the hands are free to manipulate tissues and the spine as well.

59. The patient lies on the side, and the operator, with one hand in front of the hip and the other hand behind the shoulder as in Fig. 60. By pulling on the shoulder and pushing against the hip the spine may be twisted for the purpose of relaxing tissues, including muscles, nerves and ligaments. With the same motion the side of the back uppermost may be stretched by separation of the operator's arms.

60. Fig. 61 is the exact opposite of the above, and the torsion is applied by reversing the position and motion. This is very useful for stretching and relaxing the various tissues of the back and spine.

61. The patient lies comfortably on his back. The elbow of the patient is held by the operator with one hand, while with the other he reaches across the body of the patient and grasps the muscles of the back, as in Fig. 62. The arm may be stretched as movements are made to loosen the tissues manipulated with the free hand. The spine may also be manipulated with the free hand its entire length.

62. The patient lies on the back, and the operator stands at the side of the table and reaches across the body of the patient and grasps the spinal edge of the scapulæ, pulling it out as he brings the arm of the patient across the chest, as in Fig. 63.

63. A small patient lies on the back. The knees are grasped in one hand and flexed, as in Fig. 64. The free hand is introduced under the patient, grasping the lower part of the spine and manipulating it as the knees are made to describe a circle. This is a very thorough method of manipulating the lower dorsal and lumbar regions of the spine.

64. The patient lies on the back. The knees are flexed on the thighs and the thighs are brought forcibly against the abdomen. The pressure may be relaxed, then increased. This movement relaxes the ligaments and muscles of the lumbar and sacro-iliac regions. See Fig. 65.

65. The fifth lumbar vertebra is frequently found posterior. With the patient on his back, the clinched fist of the operator is placed under the vertebræ and one limb at a time is taken by the ankle and forcibly put through the motion of external circumduction, straightening the limb out with considerable force, thus bringing the weight of the body on the vertebra.

66. In case the fifth lumbar vertebra is anterior the lesion is more difficult to reduce. The ligaments may be loosened, as in Nos. 63 and 64, and the vertebra moved from side to side, as in Nos. 35 and 57, thus gradually bringing it into its propper position.

67. In case we desire strong inhibition, for the purpose of lessening the number of nerve impulses passing from any section of the cord to any given organs, we may hold the spine with a strong grip,

partially lifting the body from the table, as in Fig. 32; or we may place a book under the spine, requesting the patient to recline heavily upon it, as in Fig. 66. The position of the book, as indicated in the cut, is for the purpose of quieting the peristaltic action of the bowels in cases of excessive diarrhœa.

68. When the sacrum is found to be posterior it may be moved to its proper position in many cases by properly relaxing the sacro-iliac ligaments as in Nos. 47, 51, 52, 64. Then have the patient lie on the side of the table. The operator then places his knee against the sacrum and pulls back on the hip and shoulder, thus gradually forcing the sacrum into position. See Fig. 67.

69. Another movement for restoring to its proper position a posterior sacrum is for the patient to sit on a stool. The operator places his knee against the sacrum, and holding the patient about the body rotates it as he pulls it backward, thus bringing pressure to bear on the sacrum. See Fig. 42.

70. The coccyx is frequently misplaced. It can be manipulated after relaxing the tissues about it. Frequently it is found necessary to insert the forefinger into the rectum, when the coccyx may be grasped by the thumb and finger and moved in the desired direction. This latter treatment should not be given oftener than once per week, and must be carefully done for fear of injuring the delicate tissues.

71. The finger, anointed with vaseline, is inserted

into the rectum for various purposes by the Osteopath. In doing so, time must be given for the sphincter muscle to relax. In piles, the finger presses the blood out of the congested veins, and with a circular, sweeping motion with the palm of the finger smooths out, frees and stimulates the action of nerves and blood vessels. In case the rectum is prolapsed it may be pushed up into position.

72. The clavicle, or collar bone, is frequently found displaced. The sternal end, when out of position, affects the tissues of the throat and is a prominent factor in diseases affecting this region, including goiter and circulatory and nerve disturbances in the arms. The operator stands at the side of the table and takes the elbow of the patient, who is reclining, and inserts the fingers of the other hand under and above the clavicle, near the sternal end. The elbow is now brought over the breast of the patient and the fingers inserted more deeply under the clavical. This movement brings heavy pressure onto the fingers by the clavical, which results in raising the latter, when the sternal end can be placed in or toward its normal position. See Fig. 70. This treatment may be applied at either end of the clavicle as the case may require.

73. The clavicle may also be raised and placed in its normal position with the patient sitting, as in Fig. 71. The elbow is grasped and raised, which raises the clavicle, when the thumb may be inserted above and under it. By bringing the elbow upward

and across the chest the clavicular ligaments may be stretched and the clavicle properly replaced. This treatment is effective for either end of the clavicle.

THE THORAX.

In treating the thorax we must remember that the ribs are connected with the vertebræ, and that when the spine has a curvature, or one or more vertebræ are twisted or displaced in any manner, the ribs connected with those vertebræ are very frequently misplaced as a result. These combined lesions cause secondary lesions of the muscles, ligaments and cartilages. In correcting any maladjustment of the ribs advantage is taken of the muscles attached to them, especially the pectoral and latissimus dorsi muscles.

74. The vertebral end, or head of the rib, is nearly a fixed point. Pressure exerted at the angle of the rib tends to move the rib about that fixed point. This movement is made more effective by the forcible elevation of the arm and in some cases by the rotation of the shoulder.

75. The first rib is often raised near the sternal end. It may be depressed after the scaleni, the muscles of the neck, are thoroughly loosened. It may be depressed by pressure as the operator stands behind the sitting patient, as in Fig. 4. The head is bent forward and rotated, as in the cut. This stretches the scaleni muscles attached to the rib. The pressure is still applied as the head is turned toward the rib.

76. The first rib may be also corrected as the patient is in the recumbent position, as in Fig. 72. The head is raised and rotated away from the rib, while the pressure is applied to the rib. Later the head is rotated toward the rib as the pressure is again applied.

77. A further treatment for the first rib is applied as the patient is in the recumbent position, as in Fig. 72. With the head turned toward the affected rib and slightly elevated, pressure is made on the rib with the thumb, and the elbow on the same side is grasped and carried across the chest to the opposite shoulder.

78. When the first or second rib is displaced downward it can be raised; the patient sitting, the operator standing behind. The operator places the tips of the fingers at the lower border of the rib and lifts on it as he rotates the head, with the free hand, forward and then strongly backward. This uses the neck muscles, the scaleni, to pull the rib upward. Should the anterior cartilages protrude they may be pressed into position as the above treatment is being given.

79. Should the first and second ribs need elevating, nearer the spine, the operator may stand in front of the sitting patient while he presses and lifts up near the head of these ribs, while he rotates the head forward and to the opposite side with considerable force. See Fig. 73.

80. The first rib may be depressed, with the operator sitting at the side of the patient with the

patient's arm across the operator's shoulder. This elevates the structures on that side. Pressure is now made on the upper border of the rib, just above the clavicle, as the head is rotated to that side and forward. See Fig. 74.

81. The practitioner stands in front of the sitting patient. One arm reaches around the patient, a little past the spine to the angle of the ribs, as in Fig. 47, while the arm of the patient is raised on the same side. The arm is stretched up and rotated back and down while the operator lifts on the angle of the rib. This serves to lift the rib in front as well as at the angle, because of the traction exerted on the pectoral muscles in front by the elevation of the arm. This motion should be carefully executed, yet sufficient strength should be used to make it effective. It may be repeated several times if necessary. The hand which holds the ribs may select one after another, as may be necessary, as the arm is stretched and rotated. In giving the above treatment the muscles, nerves, and ligaments are strengthened and toned. If one rib is very much lower than it should be the patient should take a full breath when the rib is pulled up, and as the breath is expelled the rib is still held for a few seconds.

82. Fig. 46 represents another method of elevating and separating ribs. The patient sits and the operator stands in front. The operator forces the spine to the side in question, which helps to separate the ribs. The arm of the patient is raised by the

wrist on that side, which raises the ribs. A combination of 81 and 82 is frequently effective.

83. The patient sitting and the arm of the patient across the shoulder of the operator, as in Fig. 75. This gives more of a hold on the lower rib while the patient's head is bent away from the side being treated, curving the spine and throwing the rib more into relief.

84. The patient sits on a stool and the operator stands behind, with his knee against the angle of the rib. With one hand the operator elevates and rotates the arm of the patient, and with the fingers of the other hand, beneath the rib in front, lifts upon it as the patient takes a deep breath. The entire treatment may be reversed and the rib depressed. See Fig. 41.

85. The patient is sitting. The operator standing in front grasps the head of the rib in question, with one hand passed about the patient, while the other hand presses on the sternal end of the rib. By rotating the body of the patient the rib may be sprung into position.

86. The patient is reclining on the back. The operator, standing to one side, reaches over and takes the arm of the patient on the other side. With the free hand he takes the rib at or near the angle, as in Fig. 62, and as he pushes it into place he lifts up on the outstretched arm and rotates it backward. This calls into play the anterior muscles attached to the rib or ribs and assists in the movement. The patient may further assist the operator

by taking a deep, full breath as the rib is lifted up, which the operator holds for a few seconds as the breath is exhaled.

87. The patient may lie on the side. The operator uses the same general movements as in No. 86. This of course applies more to the upper ribs.

88. As the patient lies in the prone position the heads or angles of the ribs may be replaced, as in Figs. 76, 50, 51, by working directly over them.

89. When the patient lies in the prone position many cases of luxated ribs may be treated by pressure of the thumbs against the angles of the ribs, throwing the ribs either upward or downward, as indicated by the needs of the condition.

THE ELEVENTH AND TWELFTH RIBS.

90. These ribs are very frequently found displaced. The surrounding tissues must be fully relaxed. When the rib or ribs are displaced upward we have the patient lie on the side, with the limbs flexed on the abdomen, when the ribs may be grasped by the operator and pushed into position, forcing them upward.

91. The patient sits on the side of the table, while the operator holds each end of the rib. The patient takes a full breath, and as the patient exhales, the rib is pushed into position.

92. When the rib is displaced upwards the patient takes either position, lying on the side or

sitting, and the rib is manipulated, as in Nos. 90 and 92, only in the opposite direction.

93. Frequently we find the ribs flattened over the liver or stomach. They may be pulled out, as in Fig. 77. Then they may be rounded into shape by using pressure on the ribs at the sides, as in Fig. 78. Repeated treatment in this manner will materially affect their shape.

In treating and manipulating affected ribs or misplaced ribs we find it necessary to repeat the treatment. In some cases it takes considerable time, a number of treatments being necessary for permanent results. The ribs are so prone to slip back into their old positions when they have been out of position for a long time.

THE ABDOMEN.

The Osteopath in examining the abdomen uses inspection, percussion and palpation. The latter conveys the most information concerning the condition of this important region and its contents. We note displacements of various organs, new growths, tumors, relaxed or tense conditions of the muscles, differences in temperature, enlarged or pulsating vessels, muscular contractions, distended or contracted walls, etc.

94. A general treatment of the abdomen is frequently very helpful, either for relaxing or toning muscular tissues, for increasing or decreasing the amount of blood in the abdominal vessels, and for its general effect on the nerves. The patient lies

on the back, with the knees flexed. The operator stands at one side of the table, and with the palm of the hand, not the tips of the fingers, relaxes the muscles of the abdomen. The operator may begin low down to one side and work up on that side, then on the other side in the same manner. The ribs may be slightly sprung inward to assist in the relaxation of the abdominal walls as they are undergoing manipulation, as in Fig. 79, which shows the general position of the hands. The abdomen may be spanned by the hands, with the thumbs on one side and the finger tips on the other side, and the abdominal contents moved in this manner from one side to the other.

95. In treating any part of the body, but especially the abdomen, the hands should be of such a temperature as not to be disagreeable to the patient. Cold hands used here will cause a contraction of the tissues, and thus interfere with the work. Direct pressure may be made with the flat of the hand, as in Fig. 80, over the center of the abdomen well below the umbilicus. Pressure may be gradually increased, with some side pressure to force the contents of the small intestine toward the cæcum, the lower part of the large intestine which lies low down on the right side.

96. It is often advantageous to lift up the intestines, as in Fig. 81. With the patient reclining, the knees should be flexed to allow of more thorough relaxation of the abdominal muscles. This movement should be repeated several times and the

abdominal contents held for a minute or so each time.

97. The patient is sitting, and the operator is standing behind. He places the sides of the palms of the hands deeply beneath the abdominal contents, as in Fig. 82. The patient is requested to bend forward as the operator twists his wrists, so that the sides of the hand next to the patient are turned inward and upward. Then request the patient to straighten up as the operator lifts the contents, and holds for a moment.

98. The patient lies on the side, permitting a relaxed condition of the abdominal walls. The operator stands behind, as in Fig. 83, and lifts the abdominal contents upward, and may also lift them toward the median line, thus straightening out the cæcum, or sigmoid flexure, as the position may allow.

99. The operator may straighten out the sigmoid, and at the same time tone up the muscular tissues, by insinuating the palms of the hands deeply and low down on the left of the abdomen, and suddenly lifting the contents. The movement must be carefully and cautiously performed.

100. It is often of advantage, as will be indicated in various treatments, to tone up the solar plexus. This may be done by deep steady pressure, with a slightly circular motion just below the sternum. Pressure should be directed backward and upward, as in Fig. 84.

101. The liver, spleen, and stomach and other

upper abdominal viscera may be toned by placing one hand on either side of the ribs, as in Fig. 85. Pressure, alternating with a few seconds of rest, is made as indicated.

102. The liver and adjacent abdominal viscera may be toned by alternating pressure and relaxation directly over that organ, as indicated in Fig. 78.

103. The gall bladder lies underneath the anterior portion of the liver, just beneath the points of the ninth and tenth ribs on the right side. The bile duct leaves it at this point and proceeds to the duodenum, in the shape of a reversed letter " S " when it enters that portion of the small intestine, about one and a half inches below the umbilicus. In cases of gallstones, or inflammation of the bladder or duct, we may assist nature in emptying the bladder and pass stones along the duct by manipulation.

THE PELVIS.

In the treatment of diseases peculiar to women, and some diseases peculiar to men, lesions of the pelvis play a most important part. One may never expect to effect a cure while these lesions are permitted to remain. To remove them is of the greatest importance.

Pelvic lesions will also be considered here because they affect the limbs, causing sciatica, paralysis, enlarged veins, errors in circulation, etc. These lesions are often accompanied by spinal lesions, which also affect the spine and through it other internal

organs. The discovery of these lesions requires considerable anatomical skill, and an attempt to correct lesions here should only be made when the operator is absolutely sure of his diagnosis.

The whole pelvis may be tipped backward, in which case the superior posterior iliac spines will be found to be too prominent. In case the whole pelvis is on a torsion, one side back, the other side forward, one superior posterior iliac spine will be found prominent and the other less prominent than normal. In case one side of the pelvis is higher than the other, the superior posterior spine will be higher on the high side. The limb on the high side will be shorter than the limb on the low side. This may be determined by slightly manipulating both limbs to relax all tissues, and then comparing the internal malleoli of the tibia with each other. This may be done by placing them close together. Another way is to have the patient hold a tape line between the front teeth, and measure to the anterior superior spines of both ilia, and also to each internal malleolus of each tibia. In case the upper portion of the pelvis has moved forward, the superior posterior iliac spines will be found to be less prominent than in the normal pelvis.

In making the examination the operator will best determine the condition by having the back bare. Great care must be exercised in making the examination. The points of tenderness in case of luxation will be found over the sacro-iliac articulation, both

in the muscles and in the ligaments, interfering with nerves in the same region.

104. When the pelvis is tipped backward have the patient sit on a stool or table. The operator stands behind and places his knee against the upper part of the sacrum, while he takes the patient beneath the arms and pulls upward and backward on the trunk with a rotary motion to first one side and then the other. The assistant sits in front and draws the pelvis forward. See Fig. 42.

105. For backward tipping of the pelvis the patient may recline on the table with the face down. With one hand the operator makes pressure on the upper part of the pelvis, while he lifts the limb on that side with considerable force. This treatment is given first on one side then the other.

106. For a backward tipping of the pelvis the patient lies on the side on the table. The operator stands behind. The knee is placed firmly against the sacrum, and the shoulder and the leg are both drawn backward. This forces the pelvis forward. See Fig. 67.

107. When the pelvis is tipped forward the patient may lie on the side. The operator stands behind, and as he presses against the lower part of the sacrum and pelvis with one hand he pulls back with the other hand from the upper part of the front of the pelvis, the anterior superior spine of the ilium.

108. The patient sits on a stool, while the operator stands in front. The assistant is stationed behind the patient and holds the pelvis in front and draws

it backward, while the operator with his arms under those of the patient manipulates the body of the patient forward with a lifting, rotary motion.

109. Should the pelvis tip upward on one side, the quadratus lumborum muscle may be stretched, as in Figs. 59, 60, 61. Then No. 108 may be applied, with the assistant holding down the high side of the pelvis.

INNOMINATE LESIONS.

We frequently have lesions which affect only one side of the pelvis. We often find one of the innominates backward and downward at the same time; again one will be upward and forward. The former will lengthen the limb on the same side, the latter will shorten it. These lesions are the most common, but we may find their exact reverse. We may find both innominates luxated in different ways or in similar ways at the same time.

In order to determine these lesions we must depend on the position of the posterior superior iliac spines as indicated in lesions of the whole pelvis. We must compare the length of the limbs. Make measurements between the coracoids of the scapulæ and the anterior superior spines of the ilium. Look for tension and tenderness in the sacro-iliac ligaments; also at the pubic symphysis. Examine the lumbar region of the spine for curvature or torsion. Compare the waist lines. We may measure also from the teeth to ilium and to the internal malleoli. See Figs. 86 and 87.

110. When the innominate is luxated backward have the patient lie on the back. The operator places his fist beneath the posterior superior spine of the ilium. The other hand grasps the ankle and flexes the limb on the patient's abdomen, when the limb is rotated outward and downward with considerable force. In this manner the weight of the patient helps to force the innominate into position.

111. The operator may grasp the crest of the ilium, and also the tuberosity of the ischium, and by alternately pushing on the one and pulling on the other may set either a forward or backward luxation. This is done with the patient either lying on the back or on the side.

112. Combinations of the above movements, 110, 111, or the work used in correcting the whole pelvis, may be used in correcting any lesion of an innominate.

THE LIMBS.

The general treatment of the limbs may be modified in various ways for the treatment of different and definite lesions.

113. The limb may have various tissues relaxed preliminary to other work, by manipulating the various tissues by seizing the limb in both hands, as in Fig. 88, and with a rotary movement of the hands move and relax all the tissues to the bones.

114. Both internal and external rotation and circumduction of the limb may be performed, flexing the calf of the leg on the thigh and the thigh on

the abdomen, then straightening the limb out with the proper rotation, with more or less force. See Fig. 89.

115. The sciatic nerve may be stretched by extending the limb, as in Fig. 90, at the same time bearing down considerably on the foot.

116. The patient reclining, the knee may be slightly flexed and the operator works under it with both hands, stretching the muscles outward and working in quite deeply. See Fig. 91.

117. The foot may be flexed, extended and rotated with considerable force on the ankle. Ligaments and other tissues are thus relaxed and the circulation is promoted. See Fig. 92.

118. In treating the feet the arches may be sprung to increase the arch, and pressure and traction may also be applied to it. This relaxes ligaments, permits of replacing misplaced small bones and tones up the muscular structures of the foot. See Fig. 93.

119. The toes may be stretched and rotated with force at the same time. In some cases they must be handled with care. The treatment assists in the circulation by freeing all tissues, nerves and blood vessels.

120. The saphenous opening, through which the long saphenous vein passes, lies one or two inches below the lower end of Poupart's ligament, on the inner side of the thigh. This opening is often practically closed by tense muscles. It may be made free by external and internal rotation of the limb, as

in Fig. 89. Then the opening itself may be manipulated.

121. The extended limb may be seized by the foot when the patient is in the reclining position, and turned outward as far as is comfortable for the patient, then be allowed to come to its normal position, See Fig. 94. This may be done, say ten times. Then it may be turned inward the same number of times. This movement puts the muscles on a strain by torsion, tones them up and assists in the circulation.

Old subluxations cause considerable trouble. A slight misplacement at the hip is often treated as disease of the knee, neuritis, etc. These misplacements are not always discovered by the ordinary physician, but when the real cause is removed the case is cured. Reducing these luxations, when the case is an old one, requires a course of treatment to relax all muscular tissues, to render the parts flexible and the ligaments more pliable.

122. When we discover that the hip is dislocated, with the head of the femur up and back on the dorsum of the ilium, in which the limb is short and the toes turned inward, we flex the knee and rotate it inward. This frees the head of the femur. Then we rotate outward and make extension while we press on the great trochanter to force the head into the acetabulum. See Fig. 95. This luxation comprises one half of all hip dislocations.

123. The head of the femur is sometimes down

and back near the sciatic notch. This also shortens the limb and turns the toes inward. The treatment is the same as above, as one writer puts it, "bend up, turn in, roll out and extend." Use one hand to manipulate the great trochanter. See Fig. 95.

124. Sometimes there is a thyroid dislocation of the hip, in which the head has been forced downward into the obturator foramen. In this case the knee is flexed and the toe points either inward or outward. To make the proper reduction the leg is flexed on the thigh and the thigh on the pelvis. The knee is rotated inward as far as possible, followed by extension. Pressure is made at the same time to force the head of the bone into its proper position. See Fig. 95.

125. When the head of the femur is forward and onto the pubis the toe turns outward. The head of the bone can be felt and seen. Treat as in No. 124. Should this prove unsuccessful place the patient on the side and draw the limb backward with considerable force, stretching all the muscles about the head of the bone; then lift the head over the pubis and place it in its proper position.

126. Ankle dislocations are reduced by simple traction. The knee is flexed on the thigh, the thigh on the pelvis. An assistant holds the knee and the operator holds and pulls the foot, giving it at the same time a slight rocking motion. See Fig. 96.

127. Dislocations of the knee are reduced by strong traction. Pressure to force the tissues into place

may be made at the same time. The knee joint may be sprung by placing arm under the knee and pressing down on foot. See Fig. 97.

128. In treating the shoulder and arm the shoulder may be rotated as in Fig. 57. The operator grasps it before and behind the shoulder.

129. The shoulder joint may be sprung, as in Fig. 98. The forearm of the operator is placed in the axilla, and the arm of the patient pushed toward the side. This relaxes tissues and frees up the circulation. It may be freed of adhesions and the circulation promoted by seizing the wrist, bringing it back and up under axilla and stretching out in front with force. See Figs. 103, 104.

130. The elbow may be flexed on the same principle as indicated as in No. 129, by placing the clenched fist of the operator on the patient's arm just above the elbow and bending the arm upon the hand so placed. See Fig. 99.

131. In some cases it is well to work carefully down the arm, rotating the muscles on the bones and working carefully on the forearm between the bones. See Figs. 103 and 104. Fig. 105 represents the stretching of the long head of the biceps, after which the arm will be flexed and the tendon pressed into its groove.

132. All dislocations of the shoulder may be reduced by having the patient recline. The operator places his stockinged foot in the axilla and makes strong traction on the arm of the patient. The

knee may be used instead of the foot, as in Fig. 100.

133. In cases of elbow dislocations, where both bones are displaced backwards or displaced externally or internally, or the ulna is backwards, the operator places his knee in front of the elbow joint, pressing against the ulna and the radius with the knee and bends the forearm. This plan uses the muscles to pull the bones into place. When the radius is backward the above or simple pressure, with manipulation, may be used. For forward dislocation bend the elbow over the knee. Use extension and manipulation. See Fig. 101.

134. The various wrist dislocations are all reduced by traction. Some manipulations may be used.

135. Should the ulna be dislocated at the wrist, pressure will be sufficient.

136. For the various dislocations of the hand use pressure, traction and rotation.

In many cases of old dislocations a prolonged course of treatment is necessary.

137. A table and stool are represented in Fig. 102. The stool is fourteen inches square on top and twenty-one inches high. The table is a folding one with a steel frame and thin wood top. It can be carried easily to the patient's home. One for regular office use would be padded and more substantial in design. The table represented in the cut is five feet and ten inches long, and twenty inches wide and twenty-six inches high.

138. A General Treatment is given by a great many Osteopaths in connection with the specific treatment needed for the ailment for which the patient is being treated. General treatment is an advantage in a number of cases. It is given for nerve troubles and for the general circulation. The treatments will vary greatly with different Osteopaths but the following is a sample:

139. The patient reclines on a table, lying on his side. The Osteopath begins by loosening up the tissues of the back, as indicated in Nos. 53, 56, 58. The shoulder is manipulated, as in Nos. 54, 55, the lower limb as in No. 113. The spine is sprung from one end to the other, as in No. 57. The patient then lies on the other side and the treatment is given as before. The patient then takes the reclining position, when further treatment is given the back as in Nos. 47, 48, 50, 51, 52.

Afterward the patient lies on the back and the treatment is commenced at the head, as in Nos. 14, 15.

The neck is treated as in Nos. 7B, 9, 10, 11, 13. The arms are treated as in Nos. 130, 131.

Further treatment is given the back, and the ribs are raised as in Nos. 61, 62, 86, 64. The abdomen is treated as in Nos. 94, 95, 96, 100, 101, 102. The lower limbs are treated as in Nos. 113, 114, 115, 116, 121. The patient now sits on the side of the table and the back and spine are further treated as in Nos. 1, 2, 5, 34, 36, 37, 43, 44.

140. A treatment that has come into use, recently among Osteopaths, is shown in Fig. No. 108. It is spreading the ischia. It is used in case of enlarged prostate gland. The founder of Osteopathy claims that spreading these bones invariably helps this condition.

In sciatica, the pyrafomis muscle which crosses the sciatic nerve is frequently contracted and causes pressure on this nerve. This muscle may be stretched by forcibly carrying one leg over the other as seen in figure No. 90B.

The muscles and other structures of the leg may be stretched as indicated in figure No. 88A. This movement helps to reduce contractions and assists circulation in the lower limbs. The muscles in the anterior portion of the leg may be stretched by extending the limb as in figure 89B.

A good method of raising the ribs is illustrated in figures 47A and 77A. In the first mentioned illustration we see by holding and stretching the arm upward we bring into play the pectoralis major and minor muscles which help in raising the ribs. In figure 77A it will be well to have the patient elevate his arms and while he lowers them to spread and raise the ribs. This movement acts in stretching the diaphragm which is attached to the ribs. Another method is illustrated in figure 76A.

Figure 69A represents closing and spreading the knees against resistance.

In figure 29A we have represented an abnormal spine. This patient suffered a severe attack of ty-

phoid fever, and was very badly constipated. Notice the lateral swerve, but what is worse the anterior condition of two lumbar vertebræ.

THE SPINE.

The spine, in its normal condition, is a chain of flexible nature. It is formed of a number of bones called vertebræ, from the Latin vertere, to turn. There are thirty-three of these vertebræ, of which seven are in the cervical, or neck region, twelve are in the dorsal region, which occupies the space from the neck to where the small of the back begins, five are in the lumbar region, the small of the back to the sacrum, five are in the sacral and four in the coccygeal region, which is the coccyx. The twenty-four upper vertebræ should remain separate and flexible through life. Those in the sacral and coccygeal region, in the adult are firmly united and form two bones, the sacrum and coccyx.

The spine has four normal curves, the cervical, dorsal, lumbar, and pelvic. The first, or cervical, extends from the base of the skull to the second dorsal vertebra. This curves inward. The dorsal curve extends from the second dorsal vertebra to the first lumbar vertebra. This is an outward curve. The lumbar curve extends from the first lumbar to the sacrum. This curve is a forward one. The sacral curve begins at the union of the last lumbar vertebra with the sacrum and extends to the tip of the coccyx. This is an outward curve.

In very young children the cervical and lumbar curves are absent, and when the child is sitting the spine presents only one curve from the base of the

skull to the end of the spine, and this curvature is an outward one. The cervical and lumbar curves are called compensatory, and develop a little later. The curves of the normal spine should be frequently examined, until the operator has a good idea of the normal spine. He should be acquainted with the normal flexibility of the spine as well.

Figure A

Figure B

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 3 A.

Figure 10

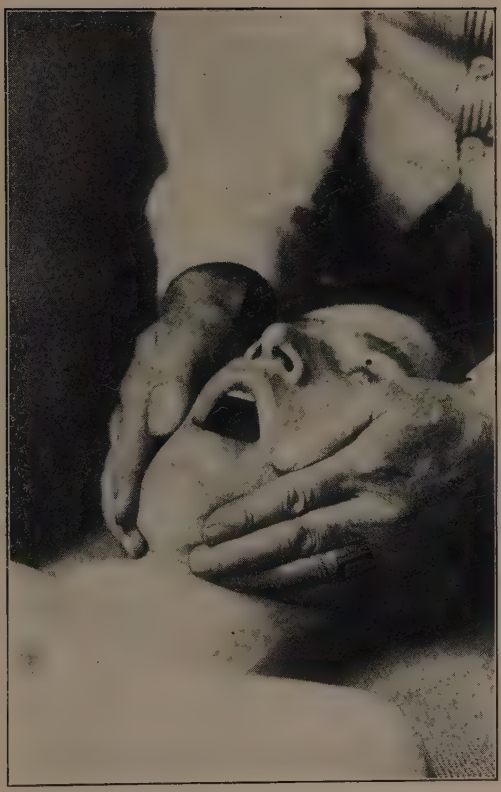

Figure 11

Figure 12

Figure 13

Figure 14

Figure 15

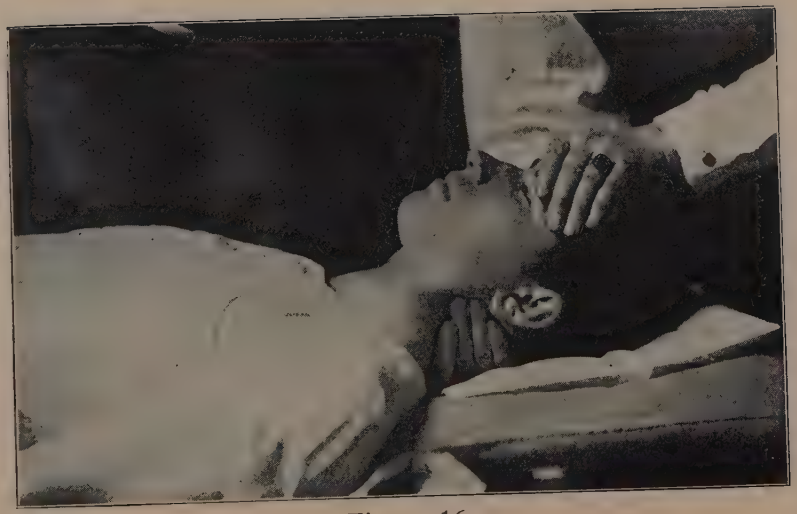

Figure 16

Figure 17

Figure 18

Figure 19

Figure 20

Figure 21

Figure 22

Figure 23

Figure 24

Figure 25

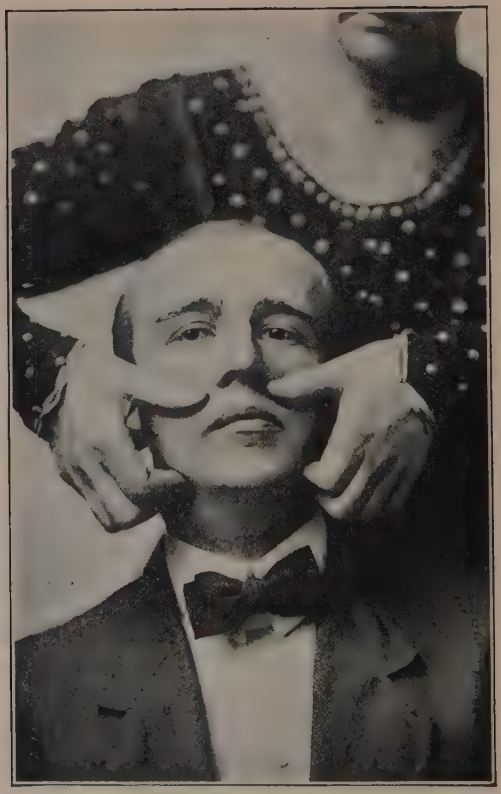

Figure 25A

Figure 26

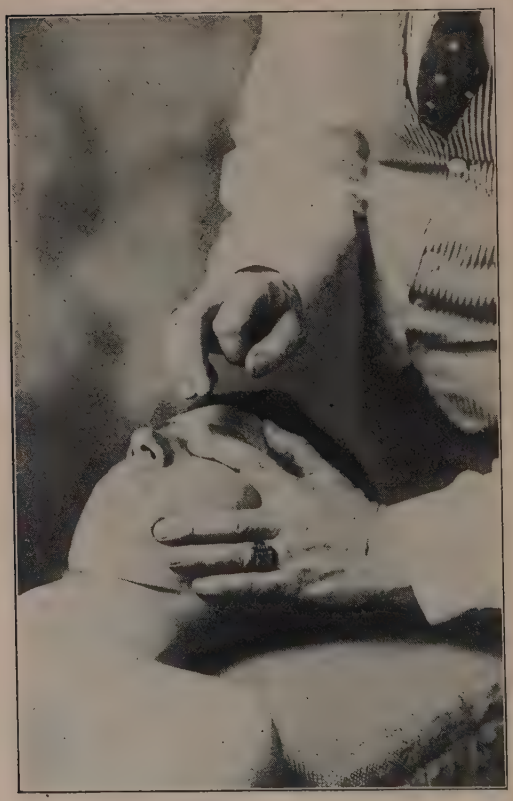

Figure 27

Figure 28

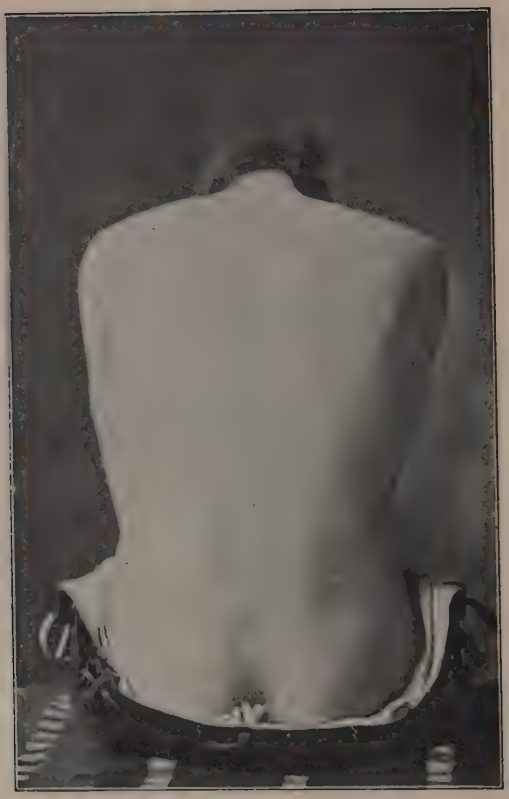

Figure 29

Figure 29A

Figure 30

Figure 31

Figure 32

Figure 33

Figure 34

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Figure 37

Figure 38

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Figure 40

Figure 41

Figure 42

Figure 43

Figure 44

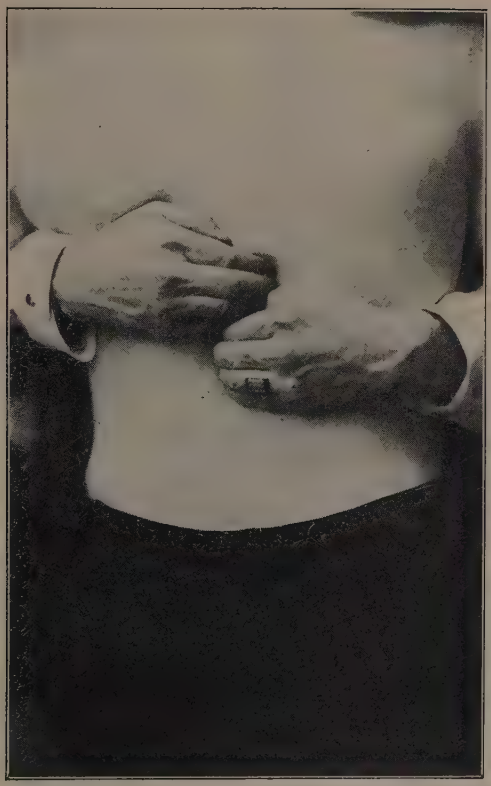

Figure 45

Figure 46

Figure 47

Figure 47A

Figure 48

Figure 49

Figure 50

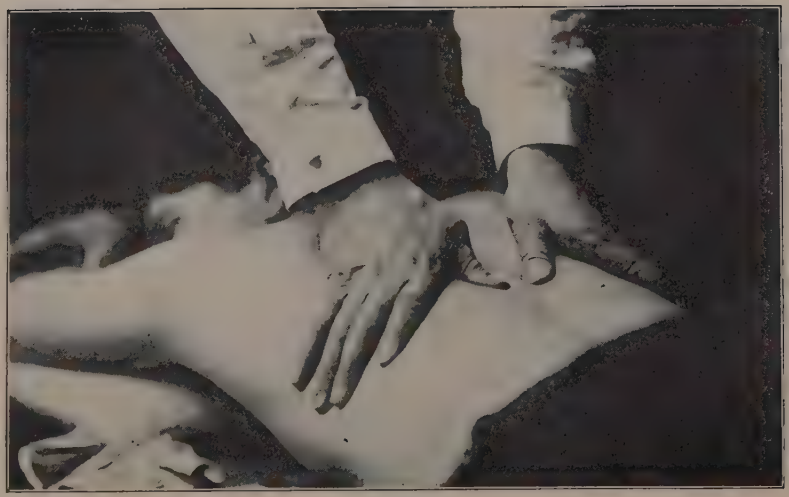

Figure 51

Figure 51A

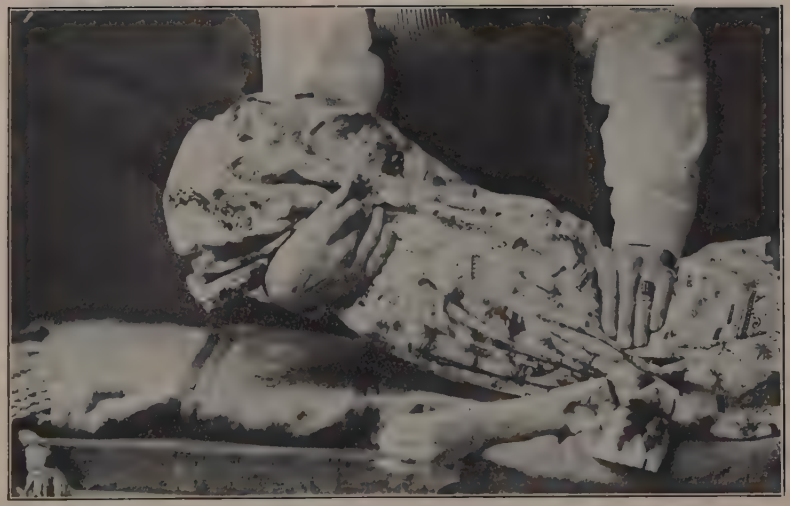

Figure 52

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Figure 63

Figure 64

Figure 65

Figure 66

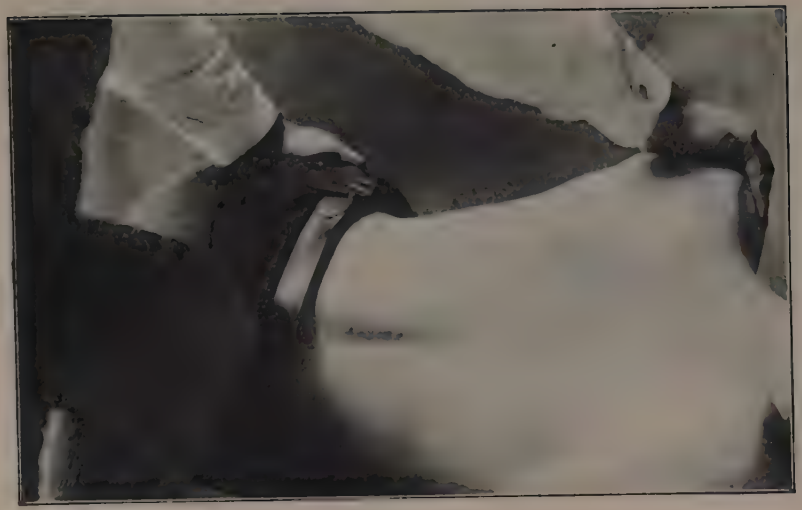

Figure 67

Figure 68

Figure 69

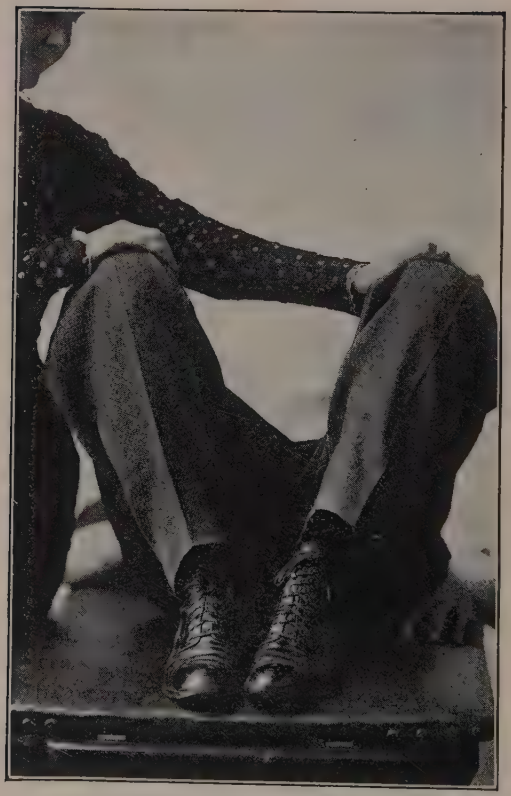

Figure 69A

Figure 70

Figure 71

Figure 72

Figure 73

Figure 74

Figure 75

Figure 76

Figure 76A

Figure 77

Figure 77A

Figure 78

Figure 79

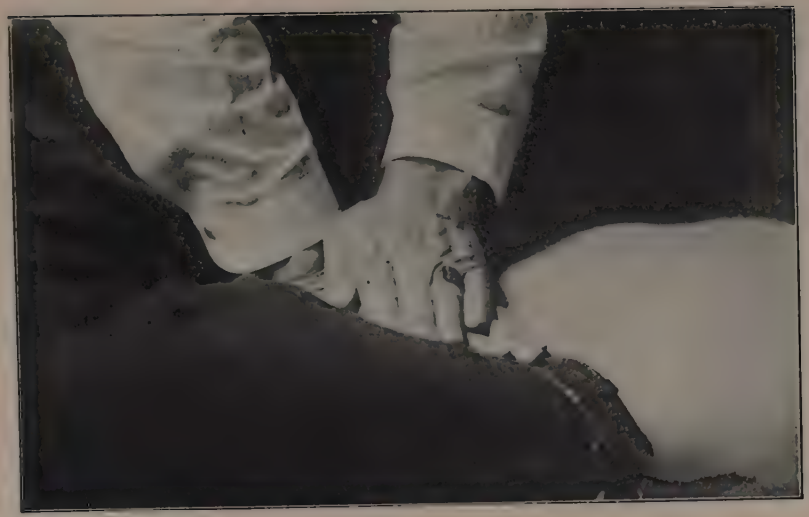

Figure 80

Figure 81

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Figure 86

Figure 87

Figure 88

Figure 88A

Figure 89

Figure 89A

Figure 90

Figure 90A

Figure 90B

Figure 91

Figure 92

Figure 93

Figure 94

Figure 95

Figure 96

Figure 97

Figure 98

Figure 99

Figure 100

Figure 101

Figure 102

Figure 103

Figure 104

Figure 105

Figure 106

Figure 107

Figure 108

Figure 109

DISEASE AND ITS TREATMENT

SPINAL CURVATURE.

(Scoliosis.)

We frequently find very serious cases of spinal curvature which may be cured or greatly benefited by Osteopathic treatment. There must be a process of building up muscles and ligaments, of restoring and strengthening wasted parts. At the same time other muscles and ligaments must be relaxed. Where the spine is ankylosed, that is, where the vertebræ have practically grown together, it can not be straightened but a false ankylosis, due to rigidity of the surrounding parts, may be straightened, where there is a curvature.

The operator should remember that nearly all spines have a little lateral curvature in the dorsal region, and in right-handed persons this curvature is directed to the right, and in the case of left-handed individuals the curvature bends toward the left. The more muscular a person is and the more the arms are used the more pronounced will we find this curvature. This is due to over-developed muscles pulling the spine to one side. This will

be true of numerous occupations which tend to develop one side of the body more than the other. For this reason we always ought to know the occupation of the patient and use this information in determining the form and force of treatment needed.

Of course if both sides are equally developed muscularly there will be no lateral deviation of the spine. In some cases of spinal curvature, in addition to the Osteopathic treatment, it will be well to give the patient some muscular exercises to develop the muscles on the concave side of the curvature, and thus help to straighten the spine.

There are three forms of spinal curvature, or scoliosis: Functional, which is the result of faulty positions, assumed as a habit or occupation, or as a result of a weak eye or ear. It may also be caused by some deformity in some other part of the body. This often appears before the age of ten. There are no pronounced symptoms and it is often discovered accidentally. One of my cases had been under treatment for a number of years, by a regular physician, for various troubles, when her mother, in giving a bath, discovered a severe case of spinal curvature. This first class of spinal curvature may be easily cured but if left, it becomes Transitional curvature, when the case is progressing into what is called Structural curvature, in which the shape of the vertebræ is changed. On account of this change in the structure and shape of the bones which form the spinal column such a case is very difficult to cure. This type of curvature is not only caused

by neglected functional cases, but may have begun before birth and is congenital. Rickets, arthritis deformans, infantile paralysis and pathological affections of the vertebræ act as a cause.

Many cases require a long course of treatment. A great deal of preliminary work must be done. Where the tissues are contracted in the back they must be loosened by some of the treatments, as Nos. 34, 36, 44, 43, 58, 59, 60. The vertebræ must be frequently worked over into their proper position. See Nos. 45, 57, 38, 39. It is often well to begin at the lower vertebra that is out of position, and force it over, then the next and so on up the spine as far as the curvature extends. Do not attempt to do too much at a time, but it will be necessary in most cases to continue the work for from one to three years, treating most of the time from two to three times per week. Special attention must be paid to the ribs in many cases. See the examination and treatment of the ribs.

In cases where the spine is too flexible it may be necessary to use appropriate exercises to strengthen the spinal muscles. They may be worked over and manipulated, as in Nos. 47, 31.

In many cases of Pott's disease, where the destructive processes have ceased and left the spine in a very stiff condition, much can be done to correct the deformity and to restore the health.

If one wishes to be better informed on this subject it will be well to secure Lovett's work on "Lateral Curvature of the Spine." Many cases of

structural curvature require some form of casts or braces to hold improvement gained, and this book enters into detail respecting the treatment.

THE BACK.

Kyphosis. This is a curvature of the spine directed backwards. We find this condition in many elderly persons, in persons who are naturally weak, and in children who have the rickets. We must distinguish this condition from the sharp angle of Pott's disease.

The treatment will be given as indicated in Nos. 34, 43, 37, 35, 38, 50. It will be necessary to give the treatment for some time twice per week; later once per week will do. In elderly people we may not expect to straighten the spine to a marked degree, but the work will greatly improve the health, by securing a better blood supply to the spinal cord.

Lordosis. This is an exaggerated curvature of the lumbar region, the curve of which is directed forward. It is frequently seen in women who have had frequent pregnancies and those who have dropsy. The treatment is directed to strengthening the ligaments and muscles and the gradual correction of the curvature. See Nos. 64, 57, 63. Also see kyphosis.

RIGID SPINE.

This is a chronic inflammation of the spine in which there is pain of a varying nature. There is rigidity and deformity. The intervertebral disks atrophy and firm, bony unions form between the vertebræ, which gradually extend to the whole spine. The muscles atrophy and there is a forward bending of the whole spine. The pain varies greatly and in some cases amounts to a severe neuralgia. This is caused by the pressure of the vertebræ on the nerve roots, which they are allowed to do on account of the absence of the intervertebral disks.

This disease is caused by violent injury to the spine, from falls, blows and carrying heavy burdens when too young. Gonorrhœal infections and articular rheumatism act as causes.

When the spine has grown quite rigid from ankylosis I have failed to loosen the joints, but the treatment has built up the muscular tissue and has helped in overcoming pain. In cases where such bony union had not taken place it could be prevented and the case cured. The treatment consisted in a thorough spinal manipulation three times per week, with a general treatment. See general treatment. One case in which a number of vertebræ had become ankylosed I sent where three Osteopaths could treat him at one time. He was very strong and could stand heroic treatment. The vertebræ were loosened in thirty treatments, and after following up this treatment for some months, at intervals, a good cure was effected.

OSTEOMALACIA.

Mollities Ossium.

This is a disease in which pain first appears in the bones, and is at first often mistaken for rheumatism. The bones gradually soften, later bend and easily fracture. Some writers claim that it is a disease of adults of from twenty to forty years of age. But I have treated very marked cases in children and young persons under twenty. When it occurs in older women it is thought that child-bearing is an exciting cause, as the first signs of the disease often appear during pregnancy.

The symptoms begin with pain in the back of the neck, thighs and sacral region. Then weakness develops in the legs, so that the person desires help in walking. After the deformity appears in the lower limbs there is danger of spontaneous fracture. There is a peculiar, uncertain, wabbling gait. The pelvis will be found to be deformed. Later the whole skeleton is deformed. Some writers claim that the urine has an excess of calcium salts.

In cases that I have treated Osteopathically the disease was arrested and the patients enjoyed a fair degree of health afterward. The cause of the disease is uncertain, and why the disease was arrested under treatment I can only conjecture. A normal

nerve and blood supply was secured to all parts. A general treatment was given as far as possible. See general treatment. In only one case was any deformity corrected—that of the lower legs.

Many cases are bedridden. They die from general debility and pneumonia. Much can be accomplished by the use of good food, pure air and baths.

ÆSTVO-AUTUMNAL FEVER.

(Bilious Remittent and Typho-Malarial.)

This type of fever occurs in temperate climates, chiefly in the late summer and autumn. We find the more severe forms in the Southern States and in tropical countries. There may be a tired, weak feeling with a running off at the bowels for a few days before the appearance of the fever. The symptoms are very irregular. The paroxysms of fever average above twenty hours, instead of ten or twelve as in malarial fever. It may be distinguished from typhoid fever by the sudden rise and fall of the temperature at varying intervals. There may or may not be a chill after the first preliminary weakness. The urine is highly colored. There may be jaundice. The tongue is furred and heavily coated. There is vomiting, in which there is very much bilious matter. The patient looks very ill.

The treatment should be a general one (see general treatment) paying considerable attention to the upper lumbar region and the entire dorsal. Treat two or three times per day until the patient is much better; then once a week for a while.

TYPHOID FEVER.

Typhoid fever is an infectious, variable disease, caused by the bacillus of Eberth. This bacillus maintains its existence for one or two weeks in water. It multiplies in water and milk, and in these mediums it has been conveyed into the human system, causing the disease. The bacillus may live for months in the soil and in ice, as freezing does not kill it, but it may be destroyed by boiling for from fifteen to thirty minutes. Persons with spines which are stiff and in a posterior position in the lumbar region are predisposed to this disease. This condition of spine weakens, through the nerve supply, the lymphatics and drainage of the bowels and creates a lodging place for the proliferation and development of these disease-producing germs.

The first stage of the fever comes on gradually. There is oftentimes a general feeling of ill health for some time prior to the more pronounced symptoms. There may be nosebleed, sense of chilliness, slight fever, backache, sore throat. The fever rises day by day, each succeeding day higher than the day before, until in four or five days the highest is reached.

The highest will be 103 to 105 degrees. The tongue is furred. There is no appetite. Constipation is present, though it may alternate with diarrhœa. The pulse is 90 to 110 per minute. The patient is thirsty. There is headache and the skin is hot and dry.

The secondary stage of the disease begins on the fifth day and lasts about two weeks. The general symptoms are more marked, the fever is high and continued, the pulse is faster and the headache disappears, but there is mental dullness and there may be delirium. The abdomen is tender, and about the eighth day rose-colored spots appear on the trunk. The second week of this period is the most dangerous, but varies with the severity of the case. Complications may now set in, as lobar pneumonia, perforations and peritonitis.

If the disease is following a favorable course the stage of decline in the fever begins on or about the twenty-first day of the disease. The symptoms begin to disappear and the temperature drops each day about one degree until the normal is reached.

In the treatment of this disease we must be very careful that the utmost cleanliness prevails. The stools, urine, vomit and sputum should be treated with a five per cent solution of carbolic acid in order to destroy the bacilli. All clothes should be changed daily and treated to a dip in the same solution, after which they should be boiled for half an hour. During an epidemic it will be well for all water and milk to be boiled, especially that used

for drinking purposes. All foodstuffs should be carefully cleaned.

Typhoid fever to a certain degree is contagious, and it is advisable to keep the rest of the family, as far as possible, away from the patient. The bed should have a rubber sheet beneath the linen or cotton sheet, and the patient should be in a well-aired, sunny room. The patient should not arise from the bed, so a bed pan and urinal are absolutely necessary. The mouth should be washed two or three times daily with a three per cent solution of boric acid. The throat may be occasionally sprayed with the same. When the lips, mouth and tongue are parched they may be moistened with equal parts of glycerine and water. In case there is danger of bedsores the back, hips and heels may be moistened with dilute alcohol in which there is a mixture of alum and salt. Afterwards dust the parts with talcum powder or boracic acid powder. The diet should be liquid. The principal part of it should be milk. It may be diluted with water or with lime water. A feeding of milk would be four ounces, diluted with two ounces of lime water. This may be given every four hours. Albumen water may be given every four hours, which makes the time of feeding every two hours. In making the albumen water the whites of one or two eggs may be used and about the same amount of water. It may suit the taste of the patient better if the juice of half a lemon or orange be added or it may be flavored with vanilla. Sometimes the milk may

be flavored with a little tea, coffee or brandy. A small cup of coffee may be given to the patient in the morning. Buttermilk or peptonized milk may be substituted if the milk can not be taken or the milk is not properly digested. Allow the patient all the ice water he wants. As much strong lemonade may be given as the patient may desire, but use very little sugar in it. As an agreeable change a cup of bouillon or strained vegetable soup may be given. Ice cream may be given.

When the fever subsides the greatest care must be exercised in the diet, as a return to solid food at too early a date may result in a serious relapse. It is unsafe to allow any solid food for ten days after the temperature has become normal. The intestines are in a greatly weakened condition, ulcers have not healed and perforations may result from the ingestion of solid food. The diet should be gradually changed, still using the milk until it is replaced by solid food. The following may be gradually and carefully introduced: Mutton or chicken broth, junket, a very small piece of cream or milk toast, baked custard, strained vegetable soup, wine jelly, the soft parts of three or four oysters, meat soup thickened with egg, blancmange, calves' foot jelly, chicken jelly. Two or three of the above articles of food may be allowed daily with the milk.

Treatment. Osteopathic treatment may be administered with very gratifying results. If begun early the fever may often be aborted. If it is begun

later the disease shows favorable symptoms immediately. The musculature of the back should be thoroughly but gently loosened. See Nos. 61, 62, 32, 53. The spine may be gently sprung from the lower part to between the shoulders. See Nos. 57, 61. The tissues in the neck must be relaxed and treatment administered in the suboccipital fossæ, just beneath the skull either side of the spine. See Nos. 5, 7, 9, 11, 13. Work in the lower part of the back helps to regain control of the circulation in the abdomen where the typhoid bacilli are at work. See No. 61. There must be no manipulation of the abdomen. This treatment or a portion of it may be given two or three times per day with great benefit to the patient.

Give strict attention to diet, bathing and the above treatment, and many of the bad after effects of the disease will be overcome. The drug treatment has been left out of this article, as drugs sap the vitality of the patient and do no good. The greatest living authority among the medical doctors of today says, "A great many of my cases do not receive a single dose."

The use of water, both externally and internally, has been found to be very beneficial, in its effects on the nervous system, the kidneys, the heart, and decreasing the liability to bedsores. It also assists in the reduction of the fever.

In using the cold pack the patient is placed in a sheet wrung out of water at a temperature of 65 degrees. The water may afterwards be sprinkled

on the sheet. This treatment may be prolonged for twenty minutes or more at a time.

In using the cold sponge bath a piece of gauze or old toweling is better than a sponge. One portion of the body may be bathed and dried at a time, beginning with the head. The water may be as near ice-cold as the patient can stand it. Twenty minutes or more should be consumed in giving the bath, and it should be thoroughly done.

When the temperature is 102 or more the patient may be placed in the full bath, with the temperature at eighty degrees. This should gradually be reduced to seventy degrees. If the bath is given in an ordinary bath tub canvas supports should be arranged to comfortably support the patient in the water, every part being covered but the head. The patient may remain in the water for fifteen minutes, unless there are signs of his being too cold, when he should be removed. A little stimulant and food should be given after the bath. While the patient is in the water the limbs and trunk should be thoroughly rubbed. When taken out wrap the patient in a sheet and cover with a blanket.

Should constipation be present an enema should be given every third day.

MALARIAL FEVER.

(Ague, Chills and Fever.)

This is an infectious disease, in which there is fever every second, third or fourth day. Sometimes

there is a continuous fever, with remissions. The disease is caused by a specific microörganism, often transmitted to man by the bite of a mosquito.

The preventative treatment calls for protection from mosquitoes. Have the house well screened. Have all marshes, ponds, and all stagnant water drained. In the malarial season petroleum should be used freely on all stagnant water. This kills the larvæ of the pest.

Marked bony lesions are found oftentimes in persons suffering from the disease. Great improvement follows their correction. A thorough spinal treatment, giving special attention to the portions between the shoulders and the center of the back, should be given. See Nos. 1, 2, 4, 5, 34, 35, 36, 37, 43, 44, 47, 48, 50. The abdominal treatment should be given with vigor, as it assists in equalizing the circulation. A general treatment may be given. See general treatment.

Osler claims that quinine is a specific for the disease, and recommends that a person going to a malarial district should take ten grains of quinine daily. When the fever is present he recommends twenty or thirty grains daily for the first three days, to be given in divided doses, and then continue in smaller doses for the next two or three weeks. He further recommends that quinine should be given every spring and fall for several years afterwards. Others claim good results from the administration of two or three grains of quinine three times per day. Quinine pills and tablets are not recommend-

ed, but it should be taken in either a capsule or in solution.

SCARLET FEVER.

Scarlet fever is an acute, infectious disease with a general scarlet eruption, with high fever and sore throat.

The fever begins from two to four days after exposure to the disease, though it may be from one to seven days. The fever may reach 104 to 105 degrees on the first day. The eruption may be seen on the second day, though sometimes it appears on the first day. The skin is dry and very hot, tongue furred, throat is dry and face flushed.

The rash is scattered, red points on a red flushed background, appearing first on the neck and chest and spreading rapidly to the entire body. At its height it is a bright scarlet. This persists for five or six days and then the skin begins to scale off. This period lasts from eight to twenty days.

Treatment. The patient should be carefully isolated and when possible other children should be sent from home. The disease can not be cut short. The bowels should be kept open and a light diet of broths, milk and fresh fruit should be given. Let the room be well ventilated. As the patient gets better, the fever becoming lower, the diet may be increased, but milk should largely predominate to avoid the danger of Bright's disease, which sometimes attacks the patient when convalescence is well under way. When the skin begins to scale

off it should be thoroughly rubbed with sweet oil or carbolized vaseline each day.

Should the fever reach 103 a sponge bath is indicated. If the fever be higher the child may be placed in a warm bath and the water gradually reduced in temperature to 80 degrees. When there is delirium present a cold pack is very beneficial. A rubber sheet is placed on a thick layer of blankets, a sheet is wrung out of cold water and the child wrapped in it and wrapped in the blankets. The cold water may be renewed from time to time. An ice cap should be applied to the head when the fever is high. None of this is necessary unless the fever is high. A thorough relaxation of the muscles and other tissues of the back and neck will be very helpful. See Nos. 5, 10, 13, 14, 31, 47, 50, 53.

LA GRIPPE.

La grippe is a very contagious disease. It spreads with remarkable rapidity, and the symptoms begin in from one to four days after exposure. It begins abruptly with fever and a profound feeling of prostration.

The majority of cases begin with a cold in the head, with a profuse discharge from the nostrils. After these catarrhal symptoms bronchitis may set in and the fever increase. There is a tendency to pneumonia, which is a very dangerous complication. In some cases the catarrhal symptoms are absent, but there is pain in the joints, headache, and backache in the lumbar region. In other cases

there are severe stomach and intestinal symptoms with vomiting, pain in the abdomen and diarrhœa.

In some epidemics many patients have as a complication heart trouble (pericarditis and endocarditis). If there is a weakness in any part of the body it is apt to be augmented by la grippe.

Treatment. A warm bath should be given and the patient placed in a warm bed and confined there until the fever has entirely left. An enema, in which there is a tablespoon of salt to a quart of water, should be given and the patient instructed to retain it as long as possible. If this cannot be done either Epsom or Rochelle salts should be given. Some medical authors advise a grain of calomel to be taken, one-fourth of a grain each hour until the grain has been taken. Then the salts should be taken after this, say about six hours.

The neck and back on palpation will be found to be very tender, and a thorough osteopathic treatment will be the best possible treatment. It prevents all of the many complications, such as heart trouble and pneumonia, and quickly reduces the fever. In cases the author has handled the patients were usually at their accustomed vocations in two to three days, while the ordinary run of cases were being kept in from ten days to two weeks under the ordinary treatment. The neck tissues are to be thoroughly loosened. See Nos. 1, 4, 5, 9, 10, 11, 13. The tissues of the back must be relaxed. See Nos. 34, 36, 37, 38, 40, 43, 47, 50. Give strong stimulative treatment for the fever at the base of the skull

in suboccipital fossæ. See No. 7. Stimulate in the upper dorsal region as in Nos. 50, 53, 56. Raise the ribs. See Nos. 81, 82, 84, 86. Work over the abdomen as in Nos. 94, 95, 100. The treatment should be given two or three times per day at first, and as the fever subsides and the patient is better, once per day will be sufficient. When the fever is high an ice bag should be applied to the head. The food should be liquid and nourishing.

CHICKEN POX.

(Varicella.)

Chicken pox is an acute, contagious disease. It is characterized by a papular eruption, commencing with a slight fever and a feeling of illness. The temperature may reach 103. The papules soon become vesicles and may be umbilicated as in small pox, holding a cloudy or clear fluid. These dry and form a crust, which drops off, leaving no scar. In severe cases when the true skin is involved scars may remain.

The eruption in chicken pox first occurs on the trunk and neck, not on the forehead and face. The vesicles break easily and form successive crops, so that papule, vesicle and crust may be seen in the same locality at the same time. The papules do not feel like small shot and do not disappear on pressure. After exposure the attack may be expected in from fourteen to sixteen days.

Treatment. The bowels should be kept open. A warm bath should be given when the eruptions

first appear. Avoid taking cold. Should the itching prove troublesome apply carbolized vaseline. Keep the skin clean and do not allow infants to scratch. If the eruption is troublesome use a wash of a two per cent solution of chlorate of potassium. Apply cold cream to the vulva if necessary.

SMALL POX.

(Variola.)

Small pox is an acute, contagious and infectious disease. In from nine to fifteen days, generally twelve days, after exposure, the patient may be seized with a chill, which may be repeated during twenty-four hours. Children sometimes have convulsions as an initial symptom. Headache, pain in the lower part of the back, and vomiting are common, while the fever rises to 103 or 104. If the fever runs high there may be delirium and a flushed face, with clear bright eyes. In other cases there may be sweats. The symptoms are not always constant, but vary in the extreme.

Accompanying the fever there may be a red rash resembling that of scarlet fever. In other cases it may assume a macular or measly form. In some cases it may be altogether absent.

Usually on the fourth day macules begin to appear on the forehead, and within twenty-four hours may be seen on the face and other parts of the body. There may be quite a few on the upper part of the back, the hands and feet. They are a bright red color and disappear on pressure. They

feel as if a small shot was hidden beneath the skin. On the fifth or sixth day these papules change to vesicles. The summits are clear, elevated and circular, with a small depression in the center, termed an umbilication. These change on the eighth or ninth day to pustules. They become more elevated and the depression disappears, and the appearance is a grayish-yellow from the contained pus.

The skin about the pustules becomes red and swollen. There is a painful pulling sensation in the face, and the eyelids in a severe case are closed.

The secondary fever arises and the first symptoms return, but the fever does not remain high longer than twenty-four hours. In many cases it is entirely absent. The pustules dry rapidly in the order of their coming and form scabs.

The small pox patient has a very peculiar odor, which is a help in diagnosing doubtful cases.

Confluent Small Pox. The symptoms are the same as above but of much greater severity. The macules are set closer together. They are more abundant on the face, hands and legs. The temperature does not entirely leave after the breaking out and when the change is made to pustules the temperature rises to 103 to 104 with the pulse from 110 to 120. The pustules have a tendency to run together and to form large superficial abscesses.

Haemorrhagic Small Pox. In this form the blood runs into the eruptions and is a very dangerous type of the disease. Its severity depends largely

on the early appearance of this symptom. If it appears later in the disease there is much less danger.

Varioloid is not a different disease, but is a very modified form of small pox. Even in mild cases the early symptoms may be severe. The fever may rise to 103. The papules appear on the third or fourth day and the fever drops and does not again appear. The patient feels well and the papules and vesicles begin to disappear with the drop in the fever.

Treatment. Drugs should not be given to reduce the fever, as they greatly weaken and depress the patient. When the temperature is high, a cold sponge bath may be given and an ice bag applied to the head. The diet should be light, mostly fluid, consisting mostly of milk and soups. When there is no fever, poached or soft-boiled eggs and toast may be added to the diet, with either tea or coffee.

A gauze mask may be worn on the face, kept moist with cold water containing mercuric bichloride enough to make a 1 to 5,000 solution. When the crusts form they should be kept moist with vaseline. The eyes should be kept clean with a salt or boric acid solution. More than enough boric acid crystals than will dissolve may be kept in the water for this purpose. The mucous lining of the nose should be kept moist with vaseline.

If the patient is constipated a salt water enema should be given every other day. At the onset of the disease, if no other treatment is available, a thorough purge with calomel may be taken. A half

grain in one-tenth grain doses at intervals of an hour should be sufficient, in ordinary cases. Bed clothes should be soaked in a 1 to 4,000 solution of mercuric chloride, before going through the laundry.

All surplus furniture, such as rugs, curtains, etc., should be removed from the room.

CEREBRO-SPINAL FEVER.

(Malignant Purpuric Fever. Cerebro Spinal Meningitis, Petichial Fever, Spotted Fever.)

This is an infectious disease, caused by a specific microörganism, the diplococcus introcellularis. The coverings of the brain and spinal cord (cerebro-spinal meninges) are affected. The course of the disease is very irregular. There is severe headache, pain in the back and upper part of the spine, contraction of the muscles in the back of the neck, and delirium.

There is a malignant type of this disease which proves rapidly fatal. It comes on suddenly with violent headache, chills, muscular spasms, light fever, but slow pulse, being 50 to 60 per minute. A purple rash may develop slightly raised places on the skin which fills with dark blood.

The common form sets in suddenly, usually between noon and midnight, with a chill. There may be convulsions with headache. There is pain in the back of the neck and sensitiveness to light and noise. There is great rigidity of spinal muscles and loss of control of bladder and rectum. There are con-

vulsions, delirium and set eyes. The skin has various symptoms. Sometimes a dusty mottling may be present, again rose-colored spots, as in typhoid fever. A purple rash, as spoken of above, may appear. The disease may last from a few hours to several months. Favorable symptoms of the disease are apparant when the temperature falls. Muscles become less rigid and intelligence returns.

There is an abortive type which sets in as above, but the case begins to improve in a day or two and the patient is soon well.

Treatment. Use an ice bag or an ice coil on the head. Use warm mustard baths for the feet and cold sponge baths for the rest of the body. An enema of salt water should be given daily, using a tablespoonful of salt to a quart of water. If vomiting distresses, one drop of tincture of iodine, in sweetened peppermint water, may be given every two hours. Let the food be liquid or semi-fluid and nourishing. Have the sick room quiet and let it be darkened.

The patient may be greatly benefited and the course of the disease shortened, with the prevention of the usual bad after effects, by thoroughly, gently and persistently loosening the musculature of the back, and especially of the back of the neck. See Nos. 5, 9, 11, 7B, 10, 13, 14, 47, 48, 50, 53, 57, 61. The abdomen may be thoroughly treated. It will draw the blood away from the congested spine and spinal coverings. See Nos. 94, 95, 98.

GENERAL COLDS.

The author of this book fears a cold more than many of the diseases that are regarded as being serious. Never be afraid of breathing cold air or night air. Pure cold air will never cause a cold. Nansen, the arctic explorer, said that there were no colds among his officers or crew while they were in the Far North in the regions of ice, but when they returned to civilization they nearly all contracted severe colds.

Those leading an out-of-door life, though exposed to the elements, seldom contract colds, but the persons who spend much time in illy-ventilated rooms, which are overcrowded and overheated, frequently have colds; or when these conditions exist, without the overcrowding, in the houses of the rich, we find the inmates are very susceptible to colds.

When we are exposed to draughts while we are sitting still the tissues of the upper part of the back and the neck become contracted. This interferes with the circulation and any latent germs readily find a lodging place. When a person is overworked, either mentally or physically, or is suffering from some chronic illness he is more predisposed to a cold.

The symptoms of a common cold are varied. There may be pain on swallowing, loss of voice or

severe hoarseness, cough and expectoration, a slight fever with headache and a general aching over the body, sneezing and running of the nose.

In treating a cold it is best to give a general treatment rather briskly. Take a hot foot bath, an injection of warm salt water, a tablespoon of salt to a quart of water, a hot lemonade and go to bed. It will be best to remain in bed as long as the fever lasts. The treatment equalizes the circulation. If you are liable to colds it will be better to sleep in a cold, well-ventilated room. See that the bowels have a free movement once each day. Take a daily cold sponge bath each day. Discard furs and neck mufflers and wear thin underwear, keeping warm by the use of heavy outer garments. My objection to the furs is that we are liable to leave them off on some occasion and thus contract a severe cold. It would be well for those liable to colds to take a course of Osteopathic treatments, build up their constitution, and thus avoid colds.

LOBAR PNEUMONIA.

(Lung Fever, Pneumonia, Croupous Pneumonia, Fibrinous Pneumonia.)

This is an acute, infectious disease which produces an inflammation of the lungs. It usually begins with a chill and the fever rises rapidly to 104 or 105.

Some of the factors that predispose to the disease are weakness of the lung tissue, caused by lesions to spine and ribs, affecting the circulation which nourishes the substance of the lungs, old age, injuries, operations, overwork, exposure, alcoholism, influenza, diabetes, tuberculosis and colds. The immediate cause is the diploccocus lanceolatus, a specific microörganism which is found in a very large percentage of the cases.

Symptoms. On inspection we note that the patient has a very bright eye, dilated nostrils, pale face or mahogany flush on the cheek. The skin is harsh and dry. The respiration runs from 30 to 60 in an adult and from 60 to 90 in a child per minute. The inspiration and expiration are both brief, yet often separated by a long pause. There is deficient expansion on the affected side, and a pain stabbing in character beneath the nipple or axilla. The cough is short, dry and painful. It sets in early and is usually attended with a rusty or blood-stained sputum. It may be white, glairy and scanty at first.

In elderly persons this disease is peculiarly dan-

gerous. The prostration is marked, but the fever is irregular and is not high, the cough, pain and expectoration are very slight and may be altogether absent. The disease may seem light, but with persons sixty years of age the mortality rate is 60 to 80 per cent, under the regular medical treatment, while at all ages Osler says that it is the most fatal of all acute diseases.

Treatment. The osteopathic treatment, as outlined below, is very successful in the subjection of this disease. If the patient is taken in hand early we may expect to abort the case. At any stage it gives great relief. The patient may be turned on the sound side and a very thorough relaxing treatment be given to all the muscles of the back, particularly on the affected side. See Nos. 53, 57, 59, 61. The spine should be worked upon and sprung from one end to the other. See No. 57. When this is accomplished turn the patient on the back and treat the neck, both front and back, for the purpose of relaxing all the tissues, both deep and superficial. See Nos. 4, 5, 9, 18. Raise the clavicles. See No. 70. Depress the first ribs, as in No. 76. Treat in the suboccipital fossæ for the purpose of reducing the fever. See No. 7B. Raise the ribs on both sides. See Nos. 86, 87. Give a thorough abdominal treatment. See Nos. 94, 96, 100, 101, 102. This helps to draw the blood away from the lungs. This treatment may be given in full once per day, but the ribs may be raised, treatment for the fever and some relaxing work over the chest and abdomen may

be given three or four times per day. Very quick improvement is expected under this treatment. The treatment should be moderate in strength when the patient is weak.

Dr. Osler says that there is no specific treatment for the disease, and cautions that patients are more often damaged than helped by the promiscuous drugging that is only too prevalent.

Some medical writers recommend when the symptoms of pneumonia are present to give a laxative and tonic composed of

Calomel .....5 grains.
Quinine .....10 grains.

to be given in one dose, and to give a warm mustard foot bath. Should the heart be weak, good whiskey may be given at intervals during the day. It is both a food and a stimulant and if necessary from one-fourth to a pint may be given in one day. It must be given to those who have been drinking it prior to the attack of the disease.

Cold packs are splendid in their efficacy. When the temperature is above 102 they should be applied every half hour. When below that point every hour, and discontinued when the temperature is at 99½.

The compress should consist of three layers, when applied, of old linen, cut in such a way that it will fit the entire chest, both front and back, from the neck and over the shoulders and down to the umbilicus. A piece of flannel should be so cut as to cover the linen. The linen is wet in water at 60 degrees

and applied and covered by the flannel and pinned with safety pins. There should be two compresses, using one after the other.

Diet. The diet should consist largely of milk, soft-boiled eggs, meat juices and egg albumen. Give plenty of cold water, lemonade and soda water.

BRONCHO PNEUMONIA.

(Lobular Pneumonia, Capillary Bronchitis, Catarrhal Pneumonia.)

Broncho pneumonia is an acute disease, in which there is an inflammation of the terminal bronchus and the air vessels connected with it. The condition is due to an infection, which is allowed by a weakened condition, which may be brought on by a number of causes.

There are two forms recognized. The primary form sets in with a chill and a cough. A child may have convulsions. There may have been no previous sickness, but there may have been a cold. Fever rises rapidly and ranges from 102 to 104. The skin is dry, hot and harsh. The cough is hard and painful. Breathing is difficult. Respiration may be 60 to 80 per minute. The face may become dusky and the finger tips and lips blue. The expectoration is white, glairy, tenacious and is often tinged with blood.

The secondary form follows some other illness and is the more common of the two. It is most frequently met with in children. The symptoms are usually veiled by the previous sickness. The initial

chill is rare. The fever develops or increases suddenly. Respiration quickly jumps to 60 to 80 per minute. The pulse is high. Fever is 102 to 104. It may last from one to eight weeks.

Treatment. We may expect great relief and a speedy recovery of the case by giving the osteopathic treatment as outlined in lobar pneumonia. This is the best possible treatment. In the case of children good hygiene and careful nursing are of the utmost importance. Let there be plenty of fresh air. If possible let the child be in one room while the other is being thoroughly aired. Change the position frequently. Do not allow the patient to lie on the back for too long at a time, as this predisposes to congestion of the lungs. A warm bath and an enema should be given at the first symptoms.

When the nose and throat are dry pour into the nostrils 10 to 15 drops of salt water, three or four times per day from a teaspoon. When the digestion is poor and the tongue is coated the following has been recommended:

Dilute hydrochloric acid....one dram.
Essence of pepsin .....two ounces

Give a teaspoonful four times per day.

If the osteopathic treatment is properly given no drugs are ever necessary in any case.

In the treatment of this disease in an adult the feet should have a hot mustard bath. The following is recommended to be given in one dose in case the medical treatment is followed:

Calomel .....5 grains
Quinine .....10 grains.

The patient may have whiskey, as indicated in lobar pneumonia. In case there is trouble in raising the phlegm, raise the foot of the bed six or seven inches.

DIPHTHERIA.

Diphtheria is an acute, infectious and contagious disease caused by the Klebs-Loeffler bacillus, without which it is a simple membranous inflammation. The disease is characterized by a fibrinous exudate or grayish-white membrane in the throat, extending over the tonsils and soft palate. There is irregular fever and great prostration.

In many cases the fever may not be above 102 or 103, while the pulse is from 100 to 120. As the disease advances the urine becomes highly colored and scanty. The mind may sometimes remain clear, but as the poison generated by the disease becomes more abundant the patient become dull and listless.

Osteopathic treatment is very successfully given in this disease. The tissues of the neck, both front and back, should be kept thoroughly loosened. See Nos. 4, 5, 6, 7B, 8B, 10, 11, 13. The clavicles should be raised. See Nos. 72, 73.

The first ribs should be depressed. See No. 76. Relax the tissues back of and beneath the clavicles. This work should stop the growth of the membrane and loosen that already formed. The thumb should

relax the tissues in front of the transverse processes of the vertebræ in the neck and the cervical sympathetic ganglia should be stimulated. See No. 7C. The back should be treated twice daily, paying particular attention to the middle portions. See Nos. 34, 36, 35, 43, 53. Keep the patient in a cool, sunny and well-ventilated room.

For cleaning the nostrils and pharynx a salt solution may be used, a teaspoonful to a pint of water. A little of this may be poured into the nostrils from a spoon every two hours. Should the nostrils be stopped it may be necessary to use a syringe. For this same purpose a mercuric bicloride solution may be used, in water 1 to 10,000.

When the digestion needs aid the following prescription is sometimes given:

Essence of pepsin .....2 ounces
Dilute hydrochloric acid ...½ drachm.

Give a teaspoonful three times per day.

When a stimulant is needed one-fiftieth of a grain of strychnine three times per day, or give whiskey or Tokay wine.

In case there is incessant vomiting, give one to two drops of tincture of iodine in sweetened peppermint water every two hours until the stomach is quiet.

The diet is important. It should be nutritious and easy of digestion, custard, eggnog, cornstarch. If the bowels are too active give burnt flour soup. In addition there may be given pineapple juice, milk, cocoa, eggs, cream and farina.

ECZEMA.

This term is from a Greek word, meaning to boil over. There are a number of varieties of the disease. Several types may be present at once or they may appear one after the other. There is intense itching, burning, redness and swelling of the parts affected. The skin is harsh, dry and thickened. The parts may become scaly. On scratching, as the result of irritation, there is inflammation and crusting of the surface. There is a papular type in which there is a number of closely set, bright red papules, particularly about the joints, and the itching is intense. The vesicular type begins with pinpoint vesicles, very closely set together. Solid sheets of eruption form, the vesicles break and there is a raw weeping, sometimes spoken of as weeping eczema.

Among the causes ascribed are rheumatism and gout, digestive disturbances, general debility and a poor nerve supply; immoderate use of food and drink, alcoholic beverages, tea and coffee drinking; exposure to heat and cold, and overwork of a mental character.

In treating, the Osteopath has splendid success with this disease. The treatment is thoroughly given, paying considerable attention to that region

of the spine from the atlas to the first lumbar vertebra. With the heel of the hand the entire fascia of the spine is relaxed from sacrum to occiput. See Figs. 48, 50 and 51. Give a general treatment. See general treatment. This should be given twice per week and should take from twenty to thirty minutes to a treatment.

The diet should be plain and nutritious. Avoid all meat, gravies and pastries, cheese, condiments and sauces. It will be better to avoid tea and coffee, and all alcohol must be left alone. Out of doors in good weather is best. The prognosis is very favorable.

CROUP.

The onset of catarrhal croup is sudden. It comes on mostly at night. Generally it is preceded by a slight cough and running at the nose the preceding day. The cough is very characteristic, harsh, dry, metallic, loud and hoarse. The fright of the child in having difficulty in breathing adds to the severity of the symptoms. The lips and nails become bluish in color. The symptoms during the following day have almost disappeared or are much milder.

Treatment. The osteopathic treatment is the same as for diphtheria, which see.

An emetic, promptly administered, will generally relieve the symptoms. The following is frequently used:

Triturate of antimony, 1-100 of a grain.
Ipecac, ...1-100 of a grain.

Give one every fifteen minutes until the patient vomits. Give one every four hours during the day.

Coal oil, fifteen to twenty drops on sugar, given every fifteen or thirty minutes, sometimes proves to be of great value. This may be also used as an external application on the chest and throat.

Give the child plenty of fresh air and bathe the child's chest with cold water.

ERYSIPELAS.

(St. Anthony's Fire.)

Erysipelas is an acute, contagious disease characterized by inflammation of the skin, which is red,

tense and shining. Spots form, which are reddish in color, which coalesce and small blisters appear. There is a rapidly-rising temperature, often preceded by a rigor. The constitutional symptoms are often marked. There may be delirium, dry tongue and feeble pulse. The disease is often confined to the face, but may wander (erysipelas migrans) to the neck, chest and other parts of the body.

No medical treatment has any effect on the disease. A two per cent solution of carbolic acid in cold water may be used, but cold water is as good as any local application. The disease is caused by a poor circulation in the part affected, and a lowered vitality which allows the direct exciting cause of the disease (the streptococcus erysipelatosus) to gain a foothold.

The quickest way to rid the patient of the disease, if in the face, is to relax all the tissues of the neck. See Nos. 1, 3, 5, 8B, 9-10, 11. Spring the lower jaws against resistance. See No. 8. Give a thorough spinal and abdominal treatment, to quicken the action of the bowels and kidneys and to aid in carrying off the poisons. See Nos. 31, 32, 34, 35, 43, 48, 50, 94, 97, 100. Give a salt water enema. Furnish the patient with a good, nutritious diet. As in most acute cases, the patient should receive the osteopathic treatment daily.

TONSILLITIS, Acute.

This is an inflammation of the tonsils which may result in a cure, suppuration (quinsy), or in chronic enlargement.

This disease is contagious and is often a forerunner of rheumatism. It affords a medium of entrance for various microörganisms. It is preceded by a pain in the back and limbs, with a rapidly rising fever. The tongue is coated and furred. Swallowing is difficult. The urine is dark. The tonsils, which may be felt below the angle of the jaw, are swollen and tender. On inspection they may seem to nearly close the throat. They are red, with a glazed surface at first, but later are covered with a thin layer of pus. This in some cases may assume a grayish hue. If it spreads over the throat and upwards on the roof of the mouth diphtheria may be suspected. See diphtheria.

Treatment. The best possible treatment is osteopathic. All the tissues of the neck are relaxed, both front and back. See Nos. 1, 3, 5, 8B, 9, 10, 11, 13. The clavicles are raised and corrected. See Nos. 72, 73.

The first rib is lowered. See Nos. 75, 76. Many cases will be helped by a general treatment, which see. All the above will insure a good circulation to the affected parts. All neck lesions are to be removed, as in this portion of the spine arises the nerve supply to the tonsils. In ordinary practice in treating tonsillitis one attack predisposees to another, but the author has treated a number of patients osteopathically for the trouble and the disease did not return. Of course the lesions affecting the circulation were removed. Keep the bowels open. Salt water enema will be beneficial. Drop salt

water into the nostrils every two or three hours. Cold compresses will prove helpful, placed on the throat. See cold compresses.

QUINSY.

(Follicular Tonsillitis.)

The inflammation is more deeply seated than in acute tonsillitis. The patient is greatly prostrated. A high temperature of from 104 to 105 degrees is common. The tendency is for the glands to suppurate. The treatment will be the same as for acute tonsillitis. The only difference is that hot fomentations will be better than the cold pack in the latter stages. The glands should be opened early. If taken early with osteopathic treatment the case may be aborted.

CHRONIC TONSILLITIS.

(Enlarged Tonsils.)

Enlarged tonsils are found in many children following tonsillitis, diphtheria or some of the eruptive fevers. This condition, in many cases, causes mouth breathing. The sense of taste, hearing and smell is often impaired. In cases that are very marked the mental faculties are impaired. Such patients take cold easily and are susceptible to diphtheria. The osteopathic treatment is the same as outlined in acute tonsillitis, with the exception of cold packs. It should be given three times per week. When the case is better, then twice per week for a while. In

the chronic condition the tonsils may be manipulated with benefit. See No. 8B.

In addition to the above treatment it will be well to use pressure with the flat of the hand on the front and sides of the neck for the purpose of opening up and freeing all vessels to and from the tonsils. If these channels had been free there would have been no chronic trouble with the tonsils. Most Osteopaths give a general treatment, giving attention to the excretories.

The prognosis under Osteopathic treatment is very favorable. The Osteopath keeps the drainage of the venous blood in good condition and thus speedily cures the case. Of course quicker results are secured in acute cases than in chronic ones.

Some persons are subject to attacks of tonsillitis every year, developing into quinsy. In such cases when I commenced treating them soon after the yearly attack began I found that the quinsy was aborted and the tonsillitis soon cured. But what was still better the yearly attacks ceased entirely.

MEASLES.

(Moribilli.)

This is an acute, infectious, very contagious disease. Before the eruption there will be a cough, cold in the head with running at the nose and fever. This will be followed by a brownish-red eruption at the end of the fourth day of the sickness. It appears first on the neck, then on the face, forehead and trunk. One or more papules may be seen on the hard palate twenty-four hours before it appears on the face.

Small red spots with a minute bluish-white center may be seen on the inside of the lips and cheeks, from one to three days before the eruption is seen on the body. This is known as Koplik's sign.

If the rash is slow in appearing a general spinal treatment should be given, paying particular attention to the upper part of the neck. See Nos. 1, 5, 9, 10, 36, 43, 48, 50, 53. The author has caused the rash to appear very quickly with one treatment, as indicated above. This causes the headache and fever to disappear. Treat the head, Nos. 14, 16; neck, Nos. 4, 6, 7B; throat, No. 8B; first rib and clavicle, Nos. 76, 75, 72, 73. Raise the ribs to guard against pneumonia, Nos. 81, 86, 87. Other than this nothing can be done to lessen the severity or shorten a case of measles. It is best to have the room darkened on account of the eyes. If the eyes are

sore, keep clean with a saturated solution of boric acid. Cover with cloths wet with ice water. The food should be liquid and light. When the itching is troublesome anoint with plain or carbolized vaseline. When the rash has abated a warm bath should be given daily. Be careful of the eyes for several weeks after convalescence.

GERMAN MEASLES.

(Rotheln, Rubella.)

This is a very mild, contagious disease. It spreads with great rapidity. There is a very mild fever and there is a headache, pain in the back and limbs and sore throat, with swelling of the cervical glands.

The symptoms are very mild, and it is much less serious as a disease than measles. There is a macular rose-red eruption on the throat, which extends to the face and chest and then to all parts of the body. Sometimes the eruption is confined to the upper part of the body only; again it may even invade the soles of the feet, and the palms of the hand. The rash reaches its height on one part of the body while it fades on another. Its duration is from two to five days or longer. When the rash leaves, the skin is pigmented with a brownish color, which disappears in a few days. It is well for the patient to remain in bed. The diet should be light. Drink plenty of water for the sake of the kidneys. Keep the bowels open. The tissues about the neck and throat should be relaxed. See Nos. 1, 5, 6, 8B, 10, 7B. The entire musculature of the back should

be relaxed and a spinal treatment given. This helps in keeping the skin more active, which aids in bringing the disease to a speedy termination. For the spinal treatment see Nos. 34, 36, 43, 48 49, 52, 59, 61.

WHOOPING COUGH.

(Pertussis.)

This is a very highly contagious disease, caused by a specific-microörganism. It is characterized by a catarrhal inflammation of the respiratory passages, with a peculiar series of spasmodic coughs, which end in a long-drawn inspiration, or "whoop." In infancy it is a very severe disease, but in childhood it is mild. The nervous symptoms may become so severe as to become apparent in convulsions. Broncho pneumonia is one of the frequent complications.

There is no remedy in the drug line for this disease. Holt says that much harm is done by indiscriminate drugging. Keep the child out of doors as much as possible, and keep the rooms in which the child lives as well aired and as fresh as possible. Unless this is done the disease may be unduly prolonged by reinfection. The bowels should be kept open and keep to a liquid diet as far as possible.

Should the case be severe the tissues in the neck, both front and back, should be carefully loosened. The first rib should be depressed and the clavicle, or collar bone, raised. See Nos. 1, 2, 4, 5, 6, 8B,

9, 72, 73, 75, 76. The other upper ribs should be raised. See Nos. 86, 82.

This stimulates the lungs and eases respiration, and prevents pneumonia by keeping up a good circulation. Thorough and careful manipulation of the tissues of the back will benefit the case. See Nos. 34, 43, 44, 47, 48, 50. Keep the hyoid bone free. See No. 6.

TUBERCULOSIS.

Tuberculosis is the greatest scourge and most widespread malady of the human race. It has aptly been termed a social disease, for it prevails more largely in the great cities and in those spots where humanity has been crowded together.

According to the United States census report of 1900 more than ten per cent of deaths were attributed to the White Plague. More than 150,000 in our country die annually of this dread disease. So prevalent is the disease, that no less an authority than Dr. William Osler says that few persons reach maturity without infection and that none reach old age without a focus or infected area somewhere.

When we consider that every tubercular patient, when the disease is active, throws off countless millions of the germs of tuberculosis daily, that these germs have extraordinary vitality, and can withstand freezing, that they may survive months in water, and have great power to resist active chemical agents, even nitric acid, and still retain power to infect for mouths, when we further consider the care-

lessness, both of the public and the victims, it is a wonder that we are not all infected early in life and the earth swept clean of mankind. As it is one-seventh of all deaths, the world over, are the result of these germs.

The parts of the body most frequently attacked are the lymphatic glands, the lungs, the intestinal tract, bones, skin, brain, joints, uterus, Fallopian tubes, spleen and testicles.

CHRONIC TUBERCULOSIS.

(Chronic Pumonary Tuberculosis.)

The disease may be latent in the system for some time in the form of miliary tubercles, which are small, gray, hard nodules ranging in size from a mustard seed to a bean. These break down and scatter the bacilli through the system, which sets up new points of infection. An injury, a severe cold or some acute disease may cause them to break up and disseminate. Some of them may lodge in weakened lung tissue. The infection may come from without and the onset, whether it be abrupt or gradual, will depend on the number and activity of the bacilli at work and the weakness of the tissues which they attack.

When the onset is sudden the symptoms may resemble those of lobar pneumonia, only the fever is more irregular, the expectoration is more abundant and blood-stained and the bacilli are present. Chills and fever may be the first symptom noted, and in malarial regions mistakes in diagnosis are frequent-

ly made. The first warning may come with hemoptysis (a bleeding from the lungs), which is bright red in color and is to be distinguished from blood from the stomach, which will be dark in color. In many cases much blood will be lost and frequent hemorrhages follow, but after the first there may be an absence of this symptom for years. Every case exhibiting this symptom should be regarded as having tuberculosis, and treatment should be commenced and every precaution taken to ward off the disease.

The disease may come on gradually with symptoms of bronchitis, pleurisy, stomach and intestinal disorders. About one-third of all cases of pleurisy terminate in tuberculosis. The stomach and intestinal disturbances cause loss of weight and general debility, which lowers the resisting powers of the body.

Cough. In a very few cases this symptom may be absent. In the beginning of this disease it is dry and hacking and is most pronounced on retiring and rising from bed in the morning. The cough in some cases becomes very distressing and weakening, and may be so pronounced as to cause vomiting.

Pain. This symptom varies considerably. Pain in the chest may be absent, or it may be an early and nagging symptom. It may be sharp and stabbing and more or less constant, or only present when coughing.

Sputum. This varies in character as the disease progresses. At first it is white, glairy and scanty.

Later it may be tinged with blood. As the case advances there are larger quantities and it becomes more purulent, with greenish gray masses and sinks in water.

Expansion. There should be a difference of not less than three inches in the measurement of the chest in inspiration and expiration. Less than this points to tubercular tendencies.

Fever is often an early indication of the progress of the disease. The high temperature occurs about five o'clock in the afternoon, the low about five in the morning. It should be taken on rising and every two hours afterwards until retiring. This should be done for several successive days. A part of the time it may fall below normal. If it rises to 99.6 F. at night for several successive evenings the diagnosis of tuberculosis is strongly confirmed.

Emaciation. On account of the fever, loss of appetite and cough, the loss of flesh, both fat and muscle, is oftentimes rapid and may be marked early in the disease. This symptom with the cough, expectoration, fever and the flattening of the chest on the affected side, loss of expansion and dullness on percussion just above, over or below, the clavicle are the principal points of diagnosis. To be certain of the diagnosis in the early stages the bacilli must be found by microscopic examination. This can only be done in a well equipped laboratory.

Treatment. Preventative measures are of the greatest importance. Children of families in which there is a taint of the disease should be taken in

hand early and every effort made to build them up in order to resist the inroads of the bacilli. If there are any anatomical deviations from the normal they should receive osteopathic treatment. This will insure the proper nourishment to the part, or parts, liable to be infected.

Particular attention should be paid to catarrhal troubles. Let the child be out of doors as much as possible. The underclothing should be woolen. Have the diet plain and substantial, with plenty of milk and fat.

Those suffering from the disease should not be allowed to spit anywhere but in some receptacle, which can be thoroughly cleaned and the contents burned. Paper receivers have been recommended. The utmost cleanliness, in this respect, is necessary for the welfare of the patient. He should never swallow any of the sputa, as he is liable to start new foci of infection.

The open-air treatment is of great value. This has been emphasized in the case of rabbits which have been inoculated. Those confined in cellars died, while those allowed to run out recovered. Fresh air and sunshine are invaluable. The patient should remain out most of the day. If he has fever he must be quiet, but still he may be out of doors. Cold should not be allowed to drive him in, and arrangements should be made for sleeping out of doors. If he must stay inside let him sleep alone in a large, well-ventilated room.

Osteopathic Treatment. Its value can hardly be

overestimated. The nerve supply to the lungs, of course, governs the blood supply to the lung tissue. When the spine is rigid in the upper dorsal region, or when the vertebræ are misplaced, or when the ribs are out of proper relationship with the spine, or too close together, or twisted, or drooping, they press upon and interfere with nerves closely related with the vasomotor nerves of the lungs and pleura. When derangements occur, as spoken of above, other organs, as heart, stomach, liver, bowels, kidneys, etc., may be affected, and this in turn weakens the general system and has an indirect effect on the lungs. We cannot be too careful of the general health. To build up the resisting power of the patient is of the greatest importance.

The spine should be carefully examined, paying particular attention to the dorsal region. Examine the ribs and clavicles. The work should be directed to the removal of all lesions found.

In the general treatment of this disease a thorough spinal treatment should be given for the purpose of toning up the entire system. See treatments Nos. 32, 34, 35, 36, 38, 43, 51, 53, 57, 47. The ribs should be raised, giving special attention to the first and second ribs. See Nos. 78, 80, 81. Raise the clavicles. See Nos. 72, 73. All tissues of the neck should be thoroughly relaxed. See Nos. 1, 2, 4, 5, 6, 7, 8B, 9, 10, 11, 13. The abdomen should be treated as in Nos. 94, 95, 96, 98, 100. The treatment should be given gently and carefully at first, and its severity increased as the patient grows stronger

and is able to stand it. About three times per week is sufficient in most cases, for the treatment.

Drugs. Medical texts are almost in accord as to the uselessness of drug therapy. The cough is nature's effort to expel a foreign substance, but when it becomes irritating at night and exhausts the patient by preventing sleep a fourth of a grain of morphine is frequently advised or one-tenth of a grain of heroin. Before resorting to drugs for this purpose use osteopathic measures as advised in Nos. 5, 6, 7, 8B, for treating the throat and hyoid bone.

Deep Breathing. It will be well for the patient to secure all the oxygen possible. At the same time the muscles of the chest may be built up and its capacity greatly enlarged. Proper breathing will help. To do so properly your clothing must be loose. Relax your muscles. Stand easily with the hands on the abdomen. Now take a full, deep breath slowly, allowing the abdomen to swell out. Then exhale slowly, forcing the abdomen in. The abdominal type of breathing brings into full play the diaphraghm, which increases the capacity of the chest and aids in expelling the air. When you can breathe correctly in this manner, and it will take practice, you may inhale a long, deep breath, bringing the arms slowly from the sides until they meet over the head, at the same time rising on the tiptoes. Exhale slowly, bringing the arms back to the sides again. Do this several times per day, ten or fifteen minutes at a time, preferably in the open air. When you walk see that your breathing is correct.

Diet. The diet should be nourishing and ample. The battle against the disease depends largely on the ability of the patient to digest his food. It should consist largely of the following: Oyster, clam, barley, bouillon and chicken soups. Also heavy soups made of peas, beans, tomatoes, celery, flavored with meat extracts. Rare roast beef, beefsteak, lamb or mutton, chicken, turkey, eggs, ham, tongue, oysters, herring, cereals of all kinds, butter, olive oil on lettuce or raw tomatoes, cream on everything with which it is palatable, fat bacon, potatoes, green peas, string beans, spinach, cauliflower, asparagus, onions, green salads, milk, buttermilk, honey, coffee, chocolate, cocoa, puddings, ice cream, etc.

Keep the bowels open, eat five times per day, not too much at a time. Five drops of dilute hydrochloric acid taken in a wineglass of water, twice per day, will aid digestion.

MUMPS.

(Parotitis.)

This is a specific, contagious disease characterized by pain, swelling and inflammation of the parotid glands. This gland is located on the side of the face, immediately below and in front of the external ear, the lobe of which is lifted up when the swelling occurs. The pain is increased by chewing, swallowing and taking acid substances into the mouth. The pain often precedes the swelling. Both sides may be involved at the same time. It may occur

in only one, or one may be several days later than the other. The symptoms generally last for from three to five days, as the disease is self-limited.

If the pain is severe, apply warm applications. The hot water bottle or bag is the best. The diet should be liquid. The gland may be supported by cotton held in position by a bandage. Keep the bowels open and the room well aired.

Osteopathic treatment is excellent in this disease. It adds to the comfort of the patient and shortens the malady. The spine should be thoroughly treated, paying especial attention to the neck. See Nos. 1, 5, 9, 34, 36, 43. Very careful, relaxing work may be performed over the glands. Have the patient open and close the mouth against resistance. See No. 8.

AUTUMNAL CATARRH.

(Hay Fever.)

This is an affection of the upper air passages, not unlike a bad cold in the head, with varying symptoms, often with asthmatic attacks. It occurs mostly in the warm weather, generally in the late summer. It occurs each year at about the same time, often to the very day. It is very abrupt in its attack. There is a copious, thin, watery discharge from the nose. The eyes are red, swollen and suffused. The sense of taste and smell may be impaired. The appetite is poor and there is frequently a slight fever. The attack continues for from four to six weeks, or until a hard frost appears.

The first cause is an impairment of the circulation to the mucous membrane of the upper air passages, and is generally caused by lesions in the neck, upper dorsal, clavicle and ribs, as low as the fifth, affecting the vaso-motor and sensory nerves and also the blood vessels.

Cases of many years' standing have been cured by removing these real first causes. Particular attention must be paid to these lesions. All of the muscles of the upper part of the thorax. the spinal and neck muscles should be thoroughly relaxed. See Nos. 1, 2, 5, 7B, 9, 10, 11, 36, 34, 43, 44, 47, 48. The ribs and clavicles should be raised. See Nos. 72, 73, 86. Relax all the tissues of the face and forehead and about the eyes. See Nos. 14, 16, 20, 17, 21. Exert pressure on the head, as in No. 15. Open the mouth against resistance. See No. 8. Treat along the sides of the nose. See No. 18. Give deep abdominal treatment. See Nos. 94, 95, 100.

Have the patient avoid overwork. Treat three times per week. Treatment should be commenced a month or more before the attack is expected.

ACUTE CORYZA.

(Cold in the Head.)

This trouble is an inflammation of the upper air passages, accompanied by a catarrh. It sometimes precedes another disease, as in measles. It is often epidemic and there is supposed to be a specific microörganism as the cause.

When the disease is frequent it leads to chronic catarrh.

Treatment. A general osteopathic treatment should be given with vigor. See general treatment. Give special attention to the bowels. See Nos. 94, 95, 100, 97. Such a treatment will keep the cold from becoming serious and will abort a case of la grippe or pneumonia. Special attention should be given to the head and neck treatment. See Nos. 1, 5, 7, 9, 14, 7B. It will be well to take a hot lemonade on retiring. Some writers recommend snuffing from the hand every two or three hours some witch hazel (fluid extract of hamamelis), or Pond's extract. The bowels should be kept open.

LARYNGITIS.

This disease is an acute inflammation of the mucous membrane lining the larynx. It often appears with cold in the head, or may appear as a result of a blow or the effects of burning by hot drinks or poisons. Or it may be the result of the over use or improper use of the voice. It is very frequently due to lesions affecting the nerve and blood supply of the larynx. The above causes are then the secondary causes.

Treatment. The specific lesion must be removed as soon as possible. All of the tissues of the neck must be thoroughly relaxed. See Nos. 1, 2, 5, 9, 10, 11, 8B, 7B. The muscles of the upper part of the chest and back must be manipulated for the purpose of restoring them to normal, that there may be no pressure on nerves and that the circulation

may be free. See Nos. 34, 36, 43, 86. Open the mouth against resistance. See No. 8. Work deeply along the trachea and larynx. See Nos. 6, 8B.

If there is an irritating cough at night some medical authorities would give ten grains of Dover's powder.

SPASMODIC LARYNGITIS.

(Laryngismus Stridulus. False Croup.)

This trouble is often associated with acute laryngitis in children, and has its origin in an affection of the nerves. The osteopathic treatment should be a relaxing one and should follow that for laryngitis. By inserting the finger into the throat and tickling the fauces the patient may be made to vomit, which will prove helpful. A warm bath will assist in breaking up the spasm. A cold sponge bath should be given daily. The treatment should be directed to building up the general health of the patient. See general osteopathic treatment. In ordinary cases it should be given twice per week. When the patient is better once per week will be sufficient.

BRONCHITIS, ACUTE.

This disorder is a catarrhal inflammation of the bronchial tubes. It follows coryza (cold in the head), and is often a continuation of that cold by a continuity of tissue. It is frequently called "cold in the chest."

The Osteopath looks for tightened tissues in the upper part of the back and neck and finds them.

The tissues of the neck, both front and back, are thoroughly relaxed. See Nos. 1, 5, 9, 10, 11, 8B, 7B. The muscles and ligaments of the back are well loosened. See Nos. 34. 34, 36, 43, 44. Relax all the tissues over the chest. The ribs are to be raised. See Nos. 62, 86. The clavicles should be adjusted, generally by raising them. See Nos. 72, 73. In a severe case of bronchitis, with coughing, an ice bag applied to the spine from the fourth dorsal to the first lumbar will prove helpful. A hot mustard foot bath, with a mild mustard plaster on the chest, will also give relief. Give hot lemonade. Some medical authorities would recommend a laxative and at bedtime a ten grain Dover's powder for the cough.

CHRONIC BRONCHITIS.

The aged are afflicted with this disease when there has been a number of attacks of the acute form. The osteopathic treatment, as outlined for acute bronchitis. will be found very helpful. It may be given twice per week.

ASTHMA.

Asthma is a chronic affection of the bronchi, in which there are paroxysms of difficult breathing, supposed to be due to the muscular contraction of the smaller bronchial tubes. It may last for a few minutes or for several hours, and often occurs nightly for a few days or up to two weeks. Some patients have

warning symptoms peculiar to each, while in other cases the attack comes suddenly, without warning.

Asthma is supposed to be a nervous affection. Heredity plays an important part. There are many exciting causes acting as irritants, such as reflex irritations from other parts of the body, as stomach, bowels, ovaries, uterus, etc. Chemical vapors, dust, fog, smoke, the smell of certain animals, as cat, horse, dog, also the pollen of plants, also colds, anger and fright may also excite the disease to activity.

The real cause of the disease is to be found in anatomical derangement of the spine and ribs. This is proven by the fact that many who have had the disease for years and have tried everything in the form of treatments, without benefit, were cured when the anatomical maladjustments were removed. There will generally be found in the neck, clavicles, first to the sixth ribs and corresponding vertebræ some lesion that will account for the disease.

When we wish to relieve the patient the spinal muscles are relaxed, as are the tissues of the neck. See Nos. 1, 5, 7B, 9, 10, 11, 13, 34, 36, 43, 44. The clavicles and ribs are raised. See Nos. 72, 73, 82, 83, 88. Great relief should follow at once. When there is no paroxysm the treatment may be given once in ten days. Find and remove any vertebral or rib lesion present. See treatment of spine and ribs. See Nos. 52, 53, 57, 58, 86. Give the relaxing treatment as above.

In addition to this a thorough general treatment may be given.

Medical Relief. A few whiffs of chloroform will give temporary relief. The patient may inhale a solution of nitrite of amyl, three to four drops on a handkerchief. For the prevention of the disease fifteen grains of iodide of potassium, given three times per day, is recommended. Hot coffee or hot whiskey toddy will (sometimes) ward off an attack. Tobacco smoke inhaled has proven helpful. If the attack is caused by overeating or a disordered condition of the stomach or bowels or both they should be emptied.

Diet. It will be well to be careful with the diet. The heavy meals should be taken not later than noon. The sweets, or any article of food that tends to form gas in the stomach, should be interdicted.

CONGESTION OF THE LUNGS.

The blood vessels of the lungs are engorged. This causes difficult breathing, with coughing, during which bloody sputum is raised. The active form may be caused by over-exertion or exposure to the extremes of heat and cold. The passive form may be secondary to a weak heart, or to valvular heart trouble, or to continued lying on the back. The Osteopath finds lesions in the upper dorsal vertebræ and upper ribs.

The treatment is directed to a stimulation of the nerves by a thorough treatment of the upper dorsal vertebræ. See Nos. 43, 50. Relaxing of all tissues of the chest, especially between the ribs, also

the tissues of the upper part of the back. See Nos. 1, 5, 34, 36, 37, 43. Raise the ribs. See Nos. 82, 84, 86. The pneumogastric nerve and the superior cervical sympathetics should be treated. See Nos. 7, 7C. Let there be thorough work over the abdomen. Nos. 94, 96, 100. This will assist in drawing the blood away from the lungs to the vessels of the bowels. Flex and rotate the limbs. Immediate relief may be expected.

EDEMA OF THE LUNGS.

In this trouble there is a transudation of the serum from the capillaries into the air cells. The prognosis is not favorable. The treatment is the same as for congestion of the lungs. In acute cases medical treatment calls for a free movement of the bowels.

EMPHYSEMA.

This disease is an abnormal condition of the lungs, in which air has been retained, weakening the lung cells. The vesicular, or hypertropic form of the disease, is when the cells and smaller tubes have been stretched by pressure of the air and consequently weakened. The chest is enlarged and the breathing is difficult. On percussion the note is hyperresonant.

The disease comes on gradually. It may be well advanced before it is noticed. A shortness of breath, a slight lividity, may be noticed on slight

exertion. The chest presents a barrel shape and in respiration moves as if it were in one piece. The heart sounds are weak.

Bronchitis and asthma are often associated with this disease. These are frequently the cause of the most distressing symptoms. The tendency is for the patient to grow worse as cold weather advances. The disease also grows worse as the patient grows older.

In interstitial (interlobular) emphysema the air escapes from the ruptured vesicles into the interlobular tissue.

Treatment. The patient's condition may be improved under osteopathic treat ment, but not cured. Osler says, "No remedy is known which has any influence over the progress of the condition itself." Of course this refers to drugs. The osteopathic treatment will be the same as for bronchitis, with the addition of a stimulating treatment between the second and seventh dorsal to improve the heart action and help the circulation. See Nos. 34, 37, 43. It will help the patient to raise the ribs when he is taking a full breath and to compress the thorax as he expels the air. See Nos. 82, 86. Stimulate the vagi nerves. See No. 7. Treat three times per week.

PLEURISY.

There are two main forms, which may be specified as dry or adhesive pleurisy, and pleurisy with effusion.

The disease is an inflammation of the pleura, the lining of the lung. In the dry pleurisy a friction murmur may be heard. There is a slight fever and pain in the side over the point of inflammation.

In pleurisy with effusion there is frequently a chill, followed by a fever which rises to 102 to 103 and remains for a week or for several weeks. The pain is very sharp and may be referred to the nipple, or to the axilla, or to the back, or to the abdomen. There is difficult breathing and the pain is aggravated on coughing.

Treatment consists in the removal of all vertebral and rib lesions. Clavicle and rib lesions are often the actual cause of the disease. All of the spinal and intercostal muscles should be relaxed. See Nos. 34, 36, 40, 43, 44, 53. The tissues of the neck should be thoroughly treated. See Nos. 1, 5, 7B, 6, 8B. Ribs and clavicles should be raised. See Nos. 72, 73, 82, 84, 86, 88. A thorough spinal treatment should be given, with special attention to the tenth, eleventh and twelfth dorsal vertebræ. See Nos. 49, 50, 57, 48, 51, 52. Give a treatment over the bowels. See Nos. 94, 96, 100. The treatment may be given daily for a while.

The chronic case may be treated for about three times per week. Hot water bottles or bags should be applied over the seat of the pain. Some cases are benefited by wearing a moist compress, wrung out of cold water and changed every two hours.

Under medical treatment the patient who has pleurisy with effusion is given saline purges in the

nope of reducing the fluid. This failing the patient is tapped.

PNEUMOTHORAX. HYDROPNEUMOTHORAX. PYOPNEUMOTHORAX. HYDROTHORAX. HEMOTHORAX.

In all of the above conditions in which there is air or gas, water and gas, pus and gas, water or blood in the pleural cavity the osteopathic treatment will be the same, which is the same practically as for pleurisy.

The relaxation of muscular tissues, both front and back of the chest. See Nos. 34, 36, 40, 43, 44, 53. Raise all the ribs and clavicles. See Nos. 72, 82, 84, 86, 88. Give a thorough spinal treatment. See Nos. 48, 49, 50, 51, 52, 57. All of this work will give more room for the lungs and make the breathing much easier.

In many of these cases there is some disease acting as a primary cause. It may be of the lungs, kidneys, liver, blood or heart, or it may be the result of some accident. In such cases the primary disease needs treatment in connection with the active symptoms caused by it.

These cases are very serious and may need the assistance of the surgeon.

RICKETS.

This is an infantile disease, in which the body is poorly nourished and changes appear in the growing

bones, which tend to deformity. The disease comes on slowly about the time of teething. Restlessness at night, sweating of the head, constipation and beading of the ribs are early symptoms. The beads spoken of are at the junction of the costal cartilages and the ribs. If the child has walked he does not want to walk now. The body is sore and he does not wish to be moved. There may be a slight fever. The skin is pale, the tissues are soft and flabby. The sternum projects, causing the child to become chicken-breasted.

The head is larger than it should be, owing to a thickening of the bones. The face looks small, the forehead is broad and square. In some cases there is a deformity of the bones of the arms and legs, and in some cases there is not a bone in the body that escapes. Some children grow thin, some fat, but in the latter case the flesh is soft and flabby.

Osteopathic treatment will stop the deformity and give better nutrition. The treatment is general in its scope, with special attention paid to reducing the deformities and removing spinal and rib lesions. See general treatment.

Some medical writers recommend one-one hundred and twentieth of a grain of phosphorus dissolved in olive oil, given twice per day. Cod liver oil in teaspoonful doses is also recommended.

Diet. Do not allow candy, sugar, etc., but give eggs, milk, cream and good meat.

The child should be in the open air as much as possible and have a warm bath about three times per week.

OBESITY.

(Corpulence.)

Obesity is an excessive amount of fat, that not only becomes an inconvenience but seriously impairs the health by infiltrating and weakening the heart muscles, also the lungs, liver and kidneys.

The controlling factors may be heredity, bad habits of eating and drinking, lack of exercise, and spinal lesions which interfere with the proper work of the liver, pancreas and lymphatic system.

This condition must not be overcome too suddenly. The lesions may be removed as soon as possible. The clavicles are to be raised and the first rib lowered. See Nos. 72, 73, 75, 76. A thorough spinal treatment must be given for the stimulation of the liver, pancreas and kidneys. See Nos. 32, 43, 57. Vigorous treatment over the fat tends to its absorption. Give a general treatment, which see.

Diet. The diet must be restricted. Starches, fats and sweets are to be eliminated as much as possible. The use of water is to be restricted and alcoholic drinks are to be prohibited.

Regular exercise must be taken. If the heart is weak begin moderately and gradually increase the exercise. Walking is very beneficial.

Some medical authorities give from three to five grains of the dry, powdered thyroid gland, three times per day. It must be discontinued when it causes any heart disturbance. It should not be taken if there is any heart trouble.

My experience in treating obesity along Osteopathic lines has been very satisfactory. One lady about twenty-four years of age, who was a teacher, weighing over two hundred pounds, had a valvular heart lesion and I concluded that her weight ought to be reduced.

The patient was put on a diet as follows: For breakfast and supper, one soft-boiled egg and one piece of toast, and for dinner the same, with the addition of some green vegetable which grew above the ground. This diet was adhered to with Osteopathic treatments three times per week for two months. In this time the patient lost fifty-two pounds. Her appetite was too large before she began to diet, and she had considerable trouble in adhering to the menu. As the odor of cooking food made her ravenous, she left the house while meals were being prepared. At about the end of two months she asked if she could have all the hot biscuits and honey she wanted. The request was granted, the food prepared, and her capacity was one half a biscuit.

She ate what she desired afterward. Her appetite was more moderate and she still holds her light weight, though she is married and has one child. She was treated four years ago.

Another case was that of a lady about thirty. She weighed something over three hundred. She had apparent good health and was quite muscular. This patient was put on a restricted diet by simply telling her to eat much less. The Osteopathic treat-

ment was given about three months. The patient lost some during the treatment, but lost more after the treatment. In six months her loss in weight was sixty pounds, which made a great change, for the better, in her personal appearance. In both of the above cases the good results were secured by improving the lymphatic circulation. This is done by raising the clavicles and lowering the first rib and paying considerable attention to the spinal treatment in the upper dorsal region. In addition to this a general treatment was given. In giving Osteopathic treatment for different troubles you will find that if the treatment is adapted to each case in a proper manner, it tends to restore the patient to the normal in weight as well as restore the health. A thin person would take on flesh and a heavy one would be reduced.

DIABETES INSIPIDUS.

This is a chronic condition, in which large quantities of urine are passed daily of low specific gravity, and without sugar or albumen. While the disease occurs most frequently among the young, there has been no definite cause given by medical writers. It is often accompanied by nervousness and may be caused by an injury to the spinal cord or brain.

As in diabetes mellitus, the disease may come on suddenly as a result of fright or injury, but generally it is gradual in its appearance. There is great thirst and the patient drinks great quantities of water. The skin is dry and harsh and the appetite is good, and the general health does not seem to be impaired. It is incurable from the medical standpoint, but cases have been greatly benefited and many have been cured under osteopathic treatment.

Lesions are found in the middle of the back, from which the kidneys are enervated. The neck also furnishes some lesions where the medulla would be affected through nerves in that region. The treatment should be a thorough general one, as in neurasthenia, paying especial attention to the lesions in the middle of the back and in the neck. See Nos. 34, 36, 37, 43, 48, 51, 52, 1, 4, 5, 7B, 9, 11, 13. See general treatment.

DIABETES MELLITUS.

This a constitutional disease, characterized by a copious amount of urine, in which there is a large percentage of sugar. A disordered nutrition allows the sugar to accumulate in the blood, from which it is eliminated by the kidneys. It is not a disease of the kidneys.

It is claimed that in some cases it is hereditary. Males and Jews and the better classes are afflicted with the disease more frequently than others. The real cause is unknown from the medical standpoint. It often follows worry, mental shock, and severe nervous strains and diseases or injury to the spinal cord. Some writers believe the disease to be contagious. Osteopaths find lesions in the middle and lower part of the back with occasional neck lesions.

Symptoms. An unusual thirst and the passing of urine frequently are generally the first symptoms noted. The onset of the disease is gradual, but may be sudden, following fright, shock, etc. The tongue is dry, red and glazed. The gums are tender and bleed easily. The appetite is enormous. Patient grows progressively weak and thin. Skin is dry and harsh. The urine may amount to two or three quarts or as high as four or five gallons daily.

Boils, carbuncles, eczema and gangrene, associated with arteriosclerosis, constipation, enlarged liver and profuse sweating are some of the complications of the disease.

Treatment. The osteopathic treatment is most

valuable. It should be general and thorough, suited to the strength and requirements of the patient. See general treatment. The lesions are generally in the lower and middle part of the back and sometimes in the ribs, over the liver. Spinal lesions must be removed. See Nos. 34, 36, 43, 51, 52, 57, 58, 98.

Diet. The diet is of the utmost importance. All starches and sugars in all forms should be eliminated. Avoid everything made of flour, as much as possible, such as cake, pie, pastry, pudding, macaroni, also rice, tapioca, oatmeal, corn meal, hominy.

Avoid potatoes, peas, beans, turnips, cauliflower. The patient must not eat oysters, clams or liver. Avoid sweet fruits, chestnuts and peanuts, beer and sour wine.

Good Things to Eat.

Clear soups made of any kind of meat. Eggs in all styles. Fresh fish. Fresh meats of all kinds except livers. Fats of all kinds. Vegetables such as lettuce, tomatoes, spinach, cress, radishes, asparagus, cucumbers and celery.

Fruits. All acid fruits.

Drinks. Lemonade, tea, coffee, chocolate, cocoa. The above may be sweetened with saccharin, but no sugar. Buttermilk and sour milk may be used.

Bread. Gluten and bran bread and breads made of aleuronat and reborat flours are to be recommended.

In families predisposed to the disease, starches

and sugars should be interdicted. The patient should avoid worry and colds. Luke-warm or cold baths may be taken daily.

RHEUMATIC FEVER.

(Acute Articular Rheumatism.)

This is an acute, noncontagious fever, most likely caused by a germ, and manifesting itself by an attack on one or more joints. In the joint afflicted there will be heat, pain, redness and swelling, the fibrous tissue being inflamed.

The disease sets in quickly, though it may be preceded by slight, irregular pains in the joints, sore throat and tonsillitis. The fever rises to 102 to 105, the pulse is generally above 100 and one or more joints become very painful. The urine is highly colored, scanty and acid. There is a very profuse, acid, sour-smelling sweat, which has a very characteristic odor. The tenderness, redness and swelling subside in one joint as the pain begins in another. There is prostration, loss of appetite and considerable thirst.

The most serious complications of this fever are the heart affections, endocarditis, pericarditis and myocarditis, inflammations of the inner and outer lining and heart muscle, respectively. Osler quotes several writers who say that it is a self-limited disease and that medicine has no influence on its duration or course.

Treatment. Osteopathic treatment performs won-

ders in cases of rheumatism. The treatment begins at the nerve supply of the joint affected, which is in the lower part of the spine in case the joints of the lower limbs are affected, and in the neck and upper dorsal region in case the joints of the arms are attacked. In case the knee joint was the part that suffered the most, the treatment would begin in the lower dorsal region and lumbar region of the spine, thoroughly loosening the muscles and working there as in Nos. 61, 48, if possible. Then work gradually down the limb, as in Nos. 113, 116. When you reach the knee it will be generally ready for a firm, careful, relaxing treatment. Loosen all the tissues about it and end this part of the treatment by grasping the calf of the leg and the tissues below the knee with both hands and giving the leg a careful pull, thus stretching the joint and allowing a better circulation. After this is completed a general treatment will be in order, giving attention to the middle of the back, in the lower dorsal and lumbar regions. See general treatment. Raise the ribs. See Nos. 86, 87. Give a stimulating treatment in the upper dorsal region for the purpose of stimulating the heart. This treatment, given in connection with the compresses, spoken of below, will be found to be satisfactory and no drugs will be needed.

On account of the profuse sweating, flannel nightgowns should be worn and blankets used instead of sheets. The diet usually used in fevers is best, being sure that the foods are light and nutritious.

Lemonade and oatmeal water may be very freely used.

Cold compresses are used with a great deal of satisfaction in Germany. Old linen or worn-out cotton sheeting should be so folded that when applied there will be only three or four thicknesses of the material. This, wet in very cold water, placed snugly on the joint and covered closely with flannel. To avoid changing too frequently the flannel may be removed and cold water allowed to drip on the bandage, after which the flannel is replaced.

Another treatment is the hot fomentation. Preparation is made for this by securing two pieces of old woolen blanket, fifteen to eighteen inches square. One of these is to be used at a time and is to be saturated in boiling water. That it may be wrung out well, so that but little water will remain, take a strong crash roller towel. Fasten two strong sticks at either end of the towel and place the blanket between the layers of towel. Immerse in boiling water and remove, wringing as dry as possible by twisting on the sticks. Place the blanket on the joint and cover with another piece of blanket. The part to receive the hot application should be anointed with olive oil or vaseline. The compress should be renewed every fifteen minutes for an hour, when the part should be carefully dried and wrapped in cotton batting or woolen.

Another treatment: If the pain in any joint is severe, hot cloths wrung out of the following solution may be applied:

Carbonate of soda .....6 drachms.
Laudanum .....1 ounce.
Glycerine .....2 ounces.
Water .....9 ounces.

Chloroform liniment is also recommended as an external application.

The medical internal treatment is very unsatisfactory. The best for the pain and for general relief is salicin, twenty grains of which may be taken every hour and a half until the pain is reduced. Another treatment is twenty grains of salicylic acid, given every two hours in a capsule until the pain is relieved. Still another is twenty grains of salicylate of soda, every two hours until the pain is reduced, and then every five hours after until the temperature begins to be reduced. Still another, in case any of the above are tried and fails to agree, is twenty minims of oil of wintergreen given every two hours in milk.

ARTHRITIS DEFORMANS.

(Rheumatic Gout, Rheumatoid Arthritis.)

Rheumatic arthritis is a chronic disease of the joints. The disease is believed to originate in the spine. The fact that after making an attack on any particular joint of one hand it will next attack the corresponding joint of the other hand, indicates that the disease is of central origin, which is referred back to the spine.

Another theory is that the disease is caused by a

specific microörganism and is the result of this infection.

The bone in the joint enlarges. The cartilages and the muscles waste. The skin becomes pigmented and glossy, which intensifies the appearance of the deformity. In most cases there is intense pain, while in others the disease may progress and the deformities increase with little or no pain. In the early stages the disease often resembles acute articular rheumatism, but the disease persisting in joints first attacked is an important point in the diagnosis.

The disease is rarely curable, but is not dangerous to life.

Treatment. Any lesion found in the spine should be removed. The articulation should be kept pliable, and the joints affected should be stretched to facilitate circulation. When the joints are inflamed, cold compresses should be applied. When taken off the parts should be thoroughly massaged. This tends to reduce the swelling and builds up the wasted cartilages and muscles. In addition to the above a general treatment should be given to build up the system. See general treatment. The patient should have a generous diet, as much as can properly be digested of wholesome, nutritious food, such as roast beef, beefsteak, mutton, chicken, eggs, milk, cod liver oil, olive oil, butter, cream, etc. Alcoholic beverages in small amounts may be taken with the meals for their tonic effect, and malt liquors are allowable. Of course alcohol in any form is not admissible in cases of rheumatism, as it tends to ag-

gravate the disorder. In the disease under consideration, alcoholic or malt liquors should not be allowed when there is fever or much pain in the joints.

GOUT.

(Podagra.)

Gout is a nutritional, constitutional disease, accompanied by attacks of inflammation of the joints. Most generally only the joints attacked are those of the great toe, but the joints of the ankle, knee, hands and wrist may be attacked as well.

The disease is often hereditary, generally on the male side. Alcohol, rich food and lack of exercise are predisposing causes, though poor food and bad hygiene, with an excess of malt liquors, may cause what is known as "poor man's gout." If a person is susceptible to the disease it may be brought on by worry, fright, mental shock, or surgical operation.

The attack usually comes on at night or early in the morning. There is insomnia, fever and restlessness. The joint is swollen, tender. and exceedingly painful. The urine is scanty and high colored. Constipation is a varying symptom and dyspepsia is often present.

The Treatment. The spine should receive a treatment, especial attention being paid to the lower and lumbar region. The kidneys should be stimulated. See Nos. 34, 43. A general treatment should be given in many cases. See general treatment. If the great toe is painful begin the treatment in the lower

part of the back and work slowly, carefully, and thoroughly down the limb to the toe. See Nos. 113, 116, 117, 118, 119. Move all the tissues to the bone to assist circulation. The joint may be gently manipulated from side to side and carefully stretched. This, if carefully done, will eliminate the pain and assist the circulation to carry away the deposit in the joint. The part in which the pain is present should be carefully protected from the cold and kept elevated. Those who are susceptible to this disease should be very careful with the diet, and should abstain from alcohol in all its forms. An outdoor life, with plenty of exercise, is best. Keep the skin active by frequent bathing. If the patient is strong, have him use cold baths in the morning, followed by a vigorous friction with a coarse towel. If the patient is weak, warm baths should be taken on retiring at night. Straining efforts, both mental and physical, must be avoided.

Flannels should be worn next to the skin at all times. A glass or two of water, taken on retiring and the same on rising, helps to rid the system of waste material. Plenty of water should be taken during the day. The great value of the various mineral waters is the water and not the substance it contains. If one will drink the same amount of water at home the benefit will be the same. Of course the change in environment is often desirable.

The diet should be restricted, as overeating and drinking and the indulgence in meat, rich food and liquors, predispose to the disease. Let the living

be plain. Meat once per day, with vegetables preponderating, will be best. String beans, salads, cabbage, spinach, peas, fresh green vegetables, fruits, except bananas; tomatoes, strawberries, farinaceous foods, as rice, hominy, sago, tapioca, cracked wheat, butter, milk and stale bread, are all good and indicated for use for one subject to gout.

Avoid highly seasoned foods, pastry and sweets.

When there is fever use milk, farinaceous foods and plenty of water. Peppermint water may be given.

MOUTH, DISEASES OF.

The mouth should be kept clean. Left to itself it is the foulest cavity in the body. A dirty mouth is a prolific cause of disease, by harboring germs that cause constitutional diseases. We should do this when well, but should be doubly sure to keep the mouth absolutely clean when sick. Take good care of the teeth, and do not kiss on the mouth, nor allow children to be kissed there.

Stomatitis Acute, resulting from local irritation or intestinal disturbances, may affect the gums or the entire surface of the tongue or mouth. At first there is heat, redness and dryness, followed by active secretion and swelling. There is often pain in mastication.

Cleanse the mouth frequently with a two percent boric acid solution.

Stomatitis Aphthous is a more severe form than the above. Vesicles appear and there is considerable pain. The following washes will prove efficient:

Alum .....one teaspoonful.
Water .....one-half pint.

Or the following:

Tannic acid .....one drachm.
Glycerine .....one ounce.

Use thirty drops of this to a wineglass of water.

Geographical Tongue (eczema of the tongue), circular patches of the superficial skin of the tongue become loosened and fall off. As it heals in the center the sore grows and enlarges about the healed part. The patches sometimes look like a map, hence the name. The cause of the disease is unknown, but in the case of adults it proves very obstinate. The following mouth wash may be used:

Boric acid.....six parts.
Salicylic acid.....one part.
Water.....500 parts.

A weak solution of nitrate of silver will relieve the burning.

PHARYNGITIS.

(Sore Throat.)

This is an acute catarrhal condition of the pharynx. The condition generally follows exposure and cold. It may be also due to the constant use of the voice, to excessive smoking, the use of certain

drugs. It may be caused by a valvular disease of the heart or by an anurism or tumor.

There is dryness of the throat, at first, with pain on swallowing, followed by a profuse secretion and a yellowish discharge.

The best treatment is to thoroughly relax all the tissues of the neck, both front and back. See Nos. 1, 2, 5, 6, 7B, 8B, 9, 11, 13. Depress the first ribs and raise the clavicles. See Nos. 75, 77, 72, 73. Give a spinal treatment. See Nos. 34, 43, 48, 53, 57. Work over the abdomen. See Nos. 94, 96, 100. This serves to draw the blood away from the congested parts and keeps the bowels active. An enema, using a tablespoon of salt to a quart of water, will be beneficial. Use a hot foot bath and apply a cold compress to the throat. See cold compress.

In severe cases the medical treatment would indicate a calomel purge, followed by salts and a swabbing of the throat with a solution of nitrate of silver, 40 grains to the ounce.

PHARYNGITIS, CHRONIC.

This follows repeated acute attacks. Avoid exposure. Clergymen should learn to use their voices better. Smokers should cease smoking and drinkers should not use intoxicants. The general health should be built up. The osteopathic treatment as outlined in acute pharyngitis, should be given three times per week, then twice, and then once per week as the patient grows better.

SCURVY.

This disease resembles purpura, and is due mainly to the use of improper food, causing chronic ptomaine poisoning from intestinal putrefaction. Tainted animal food and an infection of the mouth with microörganisms, associated with privation, are causes. Indirect causes are poor air and water, damp, unfavorable and overcrowded quarters and lack of sunlight, previous disease, cold moisture and persistent heat. Many authorities claim that a continuous use of exclusive salt meat diet is a cause, but that lack of vegetables is not a first cause, as was formerly supposed.

Diagnosis. The gums are swollen and pulpy. There are lesions of the bones, muscles, skin, gums and viscera, which indicate a change in the composition and properties of the blood. The disease comes on slowly. There is shortness of breath and flitting pains in the back and legs. The skin is sallow, resembling the cachexia of cancer. There is physical and mental weakness. The skin soon grows dry and rough and is marked by small purple spots, mostly on the legs. Patches, looking like bruises, are soon seen, and soft, tender swellings appear on the legs. The eyelids are sometimes swollen and purple and the conjunctiva red. The urine is scanty and there is constipation.

The **treatment** indicated is a general Osteopathic one. See general treatment. Pay particular attention to the entire spine. Treat three times per week. Massage gently over the swellings.

The diet should be varied and plentiful. Fresh potatoes, cabbage, carrots, onions, lettuce and in fact all green vegetables. Oranges and lemons should be used plentifully; soup, beef tea, milk and eggs. The meat should be fresh.

VOMITING.

In many cases of acute and chronic diseases we frequently are called upon to combat nausea and vomiting. When the patient remains quietly in bed allow him to sip ice water at intervals. Or he may have a little iced tea, either peppermint or black. In case the vomiting is obstinate, medical writers recommend one-drop doses of tincture of iodine in sweetened peppermint water every hour until the condition is overcome. When the tongue is heavily coated and the stomach is foul it will be well to give a pint of warm water. This will cause vomiting and the tendency will be to clean out the stomach.

In cases of nervous or paroxysmal vomiting the writer has had splendid success by applying an ice bag to the dorsal region from the fourth to the eighth vertebra. In many cases there is a peristaltic action of that organ, during which it is very active in secreting, and the application of the ice bag tends to inhibit the nerves controlling this function. Some time ago I was called to treat a patient who had been suffering a half day with persistent vomiting, which was growing worse. Our usual method would be to inhibit the spine, which is a tedious operation and not always satisfactory.

I applied an ice bag, as above, and the patient soon became quiet and slept all night. Soon after I had an engagement in another town to treat a patient who had suffered an apoplectic stroke. When I arrived I found the patient had been vomiting about two hours. The usual means had failed to stop the trouble, as there were two doctors in attendance. Another stroke was feared, but the application of ice bags to the spine and head quieted the patient at once and there was no further vomiting and no cerebral hemorrhage. Since that time I have placed great reliance in the ice bag for vomiting when caused by nervousness.

GASTRITIS.

(Acute Gastric Catarrh. Acute Dyspepsia.)

Some forms of stomach trouble seem to be hereditary. Many are caused by a predisposing weakness found in the spine, which affects the nerve supply to this important organ. Many cases of severe stomach disease are brought on through errors in diet, too much or too rich food, or tainted food, or the inordinate use of alcohol in some form, or the use of ice cold water at meal time.

Symptoms. There is headache, nausea, pain in the stomach and abdomen, belching of gas and vomiting. The tongue is heavily furred. There is pain in the back between the shoulders, and the tissues here will be found to be abnormally tight. Sometimes there is diarrhœa. Often there is constipation. The abdomen is distended. The vomit contains food, mucus and bile.

Treatment, Osteopathic. See chronic gastritis.

Medical treatment. For a child, a dose of caster oil; for an adult, five to eight grains of calomel, followed in a few hours by a dose of salts. After this give the stomach a rest. Soda water and ice may be given. See chronic gastritis. Repeated attacks of this will lead to the chronic condition.

CHRONIC GASTRITIS.

(Chronic Catarrh of the Stomach. Chronic Dyspepsia.)

This is a diseased condition of the stomach in which the digestion of the stomach is impaired. There is an increase in the formation of mucus and changes in the digestive fluids. The muscular coats of the stomach are weakened, lessening its activity.

Symptoms. They vary greatly and change as the disease progresses. Pain, nausea, distress and feeling of oppression after eating are early symptoms. There is a constant feeling that something is wrong, and the patient is apt to be discouraged. He is melancholy, and loses ambition and dislikes exertion of any kind. There is considerable gas at times, and percussion over the stomach elicits a peculiar, hollow sound. The stomach may become so distended with gas as to cause palpitation of the heart. There is a bad taste in the mouth and the tongue is coated. There may be vertigo, "heartburn," and a stomach cough. The urine is dark red and there is a deposit on standing.

Causes. An interference with the nerve and blood supply, which weakens the stomach. This interference may be in the neck, in the back from the fourth to the eighth dorsal vertebra, or a displacement of the corresponding ribs, or the ribs over the stomach. The trouble may be also caused by errors of diet or the long-continued use of alcohol.

Treatment. Osteopathic treatment, with the proper diet, has cured countless cases after nearly every other treatment had been tried. Lesions of the neck must be corrected. Stimulate the vagus nerve which helps to supply the stomach with nerve force. See Nos. 1, 5, 3, 7, 7B. Also see Nos. 9, 10, 11, 13. Rib lesions must be carefully looked after and the spine treated between the fourth and the eighth dorsal. See Nos. 34, 43, 35, 53. Stimulate the solar plexus. See No. 100.

Should any ribs cause mechanical pressure over the stomach they should be corrected. See No. 93. A vigorous, brisk treatment may be given over the stomach and abdomen. See Nos. 94, 99, 100, 101, 102. This treatment cures permanently because it removes the underlying causes, other than errors in diet.

Medical treatment in many cases aims to supply the digestant lacking. The one most frequently needed is hydrochloric acid. Its use is indicated when gas is belched and the taste is sour. To supply this need from 15 to 30 drops of dilute hydrochloric acid is taken in sugar water about fifteen minutes after each meal. Ten grains of pepsin may be taken at the same time. Rochelle salts or Carlsbad salts or sodium phosphate may be taken in a tumblerful of hot water in the morning thirty minutes before eating. This cleanses the stomach and prevents constipation. The bowels should move freely at least once per day. It is difficult to help the stomach much while constipation persists.

Dietetic. This phase of the treatment is most important. The patient should be free from care and worry and should spend as much time out of doors as possible, and take plenty of time for meals, masticating the food well and carefully. Never eat when tired and rest, when possible, both before and after eating. A daily sponge bath in cold water, followed by active friction with a rough towel, will be helpful.

In ordinary cases the following foods may be allowed: Wheat bread, stale or toasted very dry, soda crackers, zwieback, dry or toasted, thin slices of bacon broiled, butter; thick soups, thoroughly cooked, made of asparagus, tomatoes or fresh peas or potatoes; eggs, but not hard boiled or fried; oysters, fresh fish, boiled or broiled. Meats should be young and tender. They may consist of broiled steaks and chops, roast beef, mutton and chicken. Oranges, peaches and grape fruit are good, and it is well to eat them and other fresh fruit between meals. Prunes and apples may be baked or stewed. Black coffee may be taken after dinner.

Foods Absolutely Forbidden. Fresh soft bread, hot bread, cakes, pastry, doughnuts, sweets, candies and sugar; fat or greasy food; heavy vegetables, dried, salt or corned meats or fish, veal, cheese, sweet fruits, hash or twice-cooked meats.

In very severe cases, where there is Bright's disease or heart trouble, it may become necessary to give an exclusive milk diet. From two to four quarts of fresh milk may be given in twenty-four

hours. It may be given seven or eight times per day. If it is not well borne or the patient has an annoying thirst, it may be diluted with equal parts of soda water or Vichy or Apollinaris water. If the milk is taken without this a little bicarbonate of soda (common baking soda) may be added and a pinch of salt.

Good fresh buttermilk may be used with good effect. If the patient can not take as much milk as indicated above, or enough to support strength, scraped meat is allowable; oysters, raw or broiled. Some can eat soft cooked eggs and calves' brains.

URTICARIA.

(Hives, Nettle Rash.)

This trouble appears suddenly on any part of the body. There are small reddish or pink spots which cause a pricking, stinging, itching sensation. The spots may occur in spirals or rings, or they may be combined with papules.

This trouble is generally attributed to errors of digestion and nervous disorders. With some individuals strawberries or shellfish cause the hives to appear.

A general treatment may be given, paying especial attention to the stomach. See treatment for gastritis. Avoid foods that are known to disagree in this manner. The itching may be allayed with the use of carbolized vaseline.

HEMORRHOIDS.

(Piles.)

Hemorrhoids, or piles, are varicose vessels, caused by an engorgement of the venous hemorrhoidal plexus, forming tumors at or near the anus. They are internal or external, bleeding or dry. The internal are generally bleeding and the external dry.

The symptoms vary with the size, number and seat of the tumors. There is a sensation of a foreign body being in the rectum. There is a throbbing, aching or burning pain, during and after a hard stool. As the tumor grows, sitting is uncomfortable. Many reflex symptoms accompany piles, as irritable bladder, urethra and vagina.

Any trouble that interferes with the return circulation from the rectum, as impacted fæces, constipation, a heavy or backward misplaced uterus, a pelvic tumor or a poor nerve supply to the plexus of veins affected acts as a cause. There must be proper tone in the muscular walls of these vessels for the blood properly to circulate. In diseases of the liver, lungs and heart we find piles in many cases.

In treating this condition we must remove the underlying cause as soon as possible. If it is a simple case of piles, without complications, we often find trouble in the articulation of the coccyx and

sacrum, or in iliac-sacral synchondrosis. I have secured excellent results, in some cases, by a stimulating treatment over the sacrum. The patient lying on the table, in a prone position, work over the sacrum with the flat of the hand as indicated in Fig. 48. This loosens up all the structures there and stimulates the nerves. The coccyx is frequently found misplaced. The patient lying across the table, on his breast, and his feet on the floor presents a fine position for manipulating a coccyx. With two thumbs it may be pushed forward, or from side to side as indicated. It may also be placed in position as in paragraph 71. The sacrum may be treated as in paragraphs 68 and 69.

Do not allow the patient to become constipated, but regulate the diet so as to secure free daily evacuations of the bowels. Violent exercise should be avoided, such as long walks and heavy lifting. Do not sit on damp or warm seats. Do not use highly-seasoned food, and leave alcohol alone.

APPENDICITIS.

This disease is an inflammation of the vermiform appendix. It is thought by many, at the present time, to be a very common and serious malady.

Cause. It may be caused by a fall or blow, resulting in a spinal or rib lesion which interferes with the blood and nerve supply of this little organ, thereby producing a weakened condition. Da Costa, in his surgery gives the reason for men having the disease more frequently than women, is that women have a better blood supply to the appendix than men, a small twig being given off by the ovarian artery, thereby making it stronger in women than in men.

Of course, when the organ is weakened and it is not performing its function in furnishing a secretion, which is bacteriacidal, and which assists in keeping the illeo-coecal valve in order, fecal matter, foreign bodies, such as seeds, etc., may force themselves into it and help to set up inflammation. On this account many textbooks give erroneous causes for the disease, such as impactions, seeds, poison of rheumatic fever, la grippe, structural defects and strictures and heredity.

Symptoms. The pain is the first and most common symptom. It comes on suddenly, and may be either sharp and intense or may be characterized as a dull ache. The pain is located in the lower right side of the abdomen. Pressure of the thumb applied at a point half way between the anterior

superior point of the ilium and the umbilicus on the right side will cause intense pain.

The muscles in the lower right side of the abdomen are tense and contracted. The patient has a desire to lie on the back, and the limbs, especially the right one, is drawn up.

Even in the mildest forms of appendicitis there is always fever in the early stages of the disease. The temperature ranges from 101 to 103.5. Stomach and intestinal disturbances are present. The tongue presents a furred, whitish appearance and is moist. There is nausea and vomiting in most cases. Constipation is the rule but diarrhœa may be present.

Operations are often performed for appendicitis and the appendix is found to be entirely normal. One writer in a prominent medical journal recently said that he witnessed thirty-four operations for this disease, but did not see one diseased appendix. Doubtless many lives have been lost by over-zealous surgeons through hasty operations when the case was not properly diagnosed. There are so many troubles that simulate the symptoms of appendicitis that partially excuse some of these errors. The following are mistaken for appendicitis: Abscess of the liver, intestinal obstruction, renal colic, twists of the ureter, colic of intestines, peritonitis, tubercular or otherwise, gallstone colic, coxitis, acute rheumatism of the rectus abdominis muscle, inflammation of the Fallopian tube or ovary, herpes zoster of the twelfth intercostal nerve, and typhoid fever.

The treatment of this disease calls for the removal

of the causative lesion as soon as possible. In severe cases we must wait for the acute symptoms to subside before attempting to remove the real cause, yet in many cases this may be done at once. The osteopathic treatment for the removal of the lesion increases the nerve and blood supply to the appendix at once, and assists in lowering the inflammation. It may be commenced by a stimulating treatment to the spine, while the patient is lying on the back, by reaching under the back and manipulating the spine in the upper lumbar and lower dorsal region. See No. 61. If possible use 34, 43, 57, after which careful manipulative work may be attempted over the abdomen for the relaxation of all the tissues and the improvement of the circulation. See Nos. 94, 96, 98, 99, 100. This must be very carefully performed, but will give great relief to the patient. The two lower ribs should be slightly manipulated and raised. See Nos. 90, 91, 92. Between treatments an ice bag or hot fomentations should be applied to the seat of the inflammation.

Constipation should be removed as soon as possible, and it will be well to give an enema to relieve the bowels of foreign matter and permit of a more free circulation. In many cases the contents of the appendix may be removed by manipulation. Should the pain be too severe inhibit from the eighth dorsal vertebra to the first lumbar.

After the recovery of the patient the treatment should be persisted in for some time, as changes have taken place which only a good circulation can

restore. This should be done to prevent a recurrence of an attack. If constipation has been a disturbing factor this must be treated and a diet ordered. See diet for constipation.

INTESTINAL OBSTRUCTION.

(Strangulation, Volvulus, Intussusception, Stricture, Tumors.)

Strangulation by bands from adhesions is a common form. Volvulus, a twisting of the bowel, is common in the sigmoid flexure. Intussusception, the invagination of a portion of bowel into the lumen of an adjacent part. The latter causes most cases of obstruction of the bowels in children. Stricture of the bowels may be caused by tissue of new formation of the nature of scar tissue or by cancer. Tumors outside the bowels, or fecal masses inside of the bowel may be responsible for obstruction.

In acute obstruction the pain comes on suddenly, first severe and then decreasing in severity, but the pain remains for some time. Constipation soon becomes evident, and is so absolute that even gas does not pass the rectum. The abdomen becomes filled with gas, is very much distended and exceedingly tender on pressure or on movements made by the patient. There is vomiting, some fever with a rapid pulse.

In cases of chronic obstruction there are occasional spells of vomiting and constipation. The stomach is uneasy and there is a tendency to vomit.

There are occasional spells of diarrhœa. The attacks have a tendency to recur at frequent intervals.

Many of these forms of obstruction may be overcome without the use of the knife, which is often considered necessary. Some cases require careful and persistent work over the abdomen. The work must be directed to remove the cause after the symptoms are overcome to a certain extent. Adhesive bands may be carefully broken up. Twists when located may be corrected. They are often caused by enteroptosis. This condition is often met with on the left side in the sigmoid flexure and on the right side in the caecum. Both may be lifted up and straightened. See Nos. 96, 97, 98, 99. In cases of intussusception the invaginated portion may be pulled out.

In cases where there are fecal masses, these may be gradually broken up and passed along the bowel. Some writers recommend that the patient be placed on his knees, with the head and shoulders down, the knee-chest position, and a large injection given. Some authors recommend that the patient be placed in various positions and shaken.

It may be necessary to give frequent enemas and to continue the work with the patient for some time, until the bowels are made to move.

In case the pain is very severe we may inhibit the spine from the eighth dorsal to the first lumbar vertebra. See No. 67.

When the patient has become better the real first cause must be treated, which we will find in

spine or rib lesions, disturbing the nerve and blood supply to the bowels. A section or segment of the cord may have some pressure, and affects the nerves in such a manner that one portion of the intestine is too active and the adjacent portion is partially paralyzed, thus accounting for the intussusception or volvulus. For a complete cure this condition must be corrected. We must stay with the acute cases until they are better, and the chronic cases may be treated twice or three times per week. A general treatment may be indicated in the chronic cases. See general treatment.

JAUNDICE.

(Icterus.)

This is a condition in which the bile pigments color the skin, mucous membranes and some fluids of the body.

Lesions of the spine and ribs, which interfere with the nerve supply of the liver and surrounding tissues, are a frequent cause of the trouble. The direct cause will be found in some obstruction, it may be of the liver itself, which interferes with the free flow of the bile into the intestines. Parasites, gallstones, strictures or tumors may be among the causes.

Symptoms. In catarrhal jaundice the color will be lighter, perhaps a lemon color. In obstructive jaundice the color will be much darker, may be dark green or bronzed. In some cases the skin is of a leathery, greenish-black hue. This latter condition

is sometimes called black jaundice. The secretions of the body are colored with bile pigments. The sweat may color the underclothing. The color is apparent in the urine. The first place where the yellow hue is noted is in the white of the eye.

Itching may be intense in various parts of the body. In some cases it precedes the attacks of the disease; in other cases it appears when the disease is very much prolonged. As the bile fails to pass into the intestines, where it assists in the digestion of the food, the stools are whitish or grayish in color.

Treatment. The condition calls for a thorough general osteopathic treatment. Special attention must be given to the liver. See treatment for cirrhosis of the liver. See also general treatment. The bile duct may be worked over and some pressure brought to bear on the gall bladder under the points of the ninth and tenth ribs, pressing inward and upward. Rib lesions, if any, must be removed. See Nos. 81 to 93. The spine must be manipulated from the fourth dorsal vertebra to the lumbar region. See Nos. 34, 43, 48, 51, 53. Keep the liver active.

Diet. It is well to avoid starches, fats, and sweets. Eliminate fried foods as much as possible. The appetite must be tempted. Give lemonade, the juice of pineapples, and oranges. Stewed fruits, soft cooked eggs and cereals are excellent. Drink plenty of water.

The medical treatment would be calomel, five to

eight grains, taken in fractional doses, followed by a dose of salts. Sodium phosphatee is given as in the treatment for gallstones, which see. To control the itching, use talcum powder or powdered starch, or sponge with a warm solution of warm baking soda.

GALLSTONES.

(Cholelithaisis.)

This affection is very widespread, occurring chiefly in women. It is claimed that they have three-fourths of all the cases. It has further been authoritatively stated that twenty-five per cent of all women over sixty years of age are afflicted with the disease.

The stones form chiefly in the gall bladder, though they sometimes start in the liver. Anything that interferes with the free flow of the bile may be productive of the stones. The Osteopath finds lesions in the back, from between the shoulder blades to the eleventh dorsal vertebra. The ribs in the same region are often out of proper relationship, either with the spine or with themselves. These spinal and rib lesions interfere with the nerve and blood supply of the liver. The peristaltic action of the gall bladder is also interfered with by the same lesions. Tight lacing, the dropping down of the intestines or a kidney, constipation, lack of exercise, the inordinate use of rich food, or too much of any one kind of food, continual bending over and sedentary occupations all predispose to this disease.

When the stones are forming there are no symptoms, but when the stone begins to pass through the duct, on its way to the intestines, intense pain develops suddenly in the upper right side of the abdomen, radiating towards the umbilicus and over the abdomen, and under the right shoulder blade. The patient vomits, sweats and is in great agony. The temperature rises to 102 to 104. There is tenderness in the region of the liver and the gall bladder is swollen. The gall bladder lies under the thin edge of the liver at about the point between the ends of the ninth and tenth ribs. The attack lasts until the stone reaches the intestine.

Treatment. All lesions found in the spine and ribs require immediate removal, as far as possible. Give a stimulative treatment in the middle of the spine. See Nos. 43, 44, 48, 57. The bowels may be manipulated carefully, and when the pain is most severe the spine may be held, as in No. 67. Hold firmly for inhibition at the eighth, ninth and tenth dorsal vertebræ. At the same time an attempt may be made to assist the stone through the duct. Remember that it runs from the gall bladder in the shape of a reverse letter "S" to a point about one-half an inch below the umbilicus! When the patient is better, treatment should be given each day for awhile, paying particular attention to constipation. The writer has successfully treated by the above method when surgeons said that an immediate operation was necessary.

The medical treatment would be about one-fourth

of a grain of morphine, administered hypodermically, assisted by a little chloroform, if the pain is very severe, which the patient breathes until the morphine has taken effect. Of course the morphine is to be given only when there is great pain. Further treatment would call for from two to five grains of calomel, followed by a dose of salts. This should be repeated when there are evidences of constipation. The bowels should move at least once per day. A teaspoonful of the saturated solution of sodium phosphate should be taken in a wineglass of water every three hours. After the patient becomes better it will be well to take the sodium phosphate for some time at least once per day.

When the disease is troublesome an enema of cold water should be used each day. Plenty of water should be drunk at all times. The use of hot fomentations over the liver and gall bladder will assist in relieving pain and will promote circulation in the affected point.

Diet. Starches, fats and sugars should be avoided as much as possible forever after an attack. Avoid peas, carrots, sweet vegetables and sweet fruit; also egg yolks.

Fresh green vegetables and acid fruits are highly recommended. Meat may be eaten once per day. Cereals should be well cooked.

INFLAMMATION OF THE GALL DUCT AND BLADDER.

The symptoms may be much the same as in gall-stones and it requires the same treatment.

CIRRHOSIS OF THE LIVER.

There are many forms of this disease, in which there is an increase of the connective tissue of the liver and a destruction of the secreting cells.

Atropic cirrhosis of the liver is also known as hob-nailed liver, granular liver, and chronic interstitial hepatitis. It occurs in middle-aged persons. The liver is much reduced in size. The disease may be caused by alcohol, syphilis and some of the poisons of infectious diseases.

Symptoms. There is progressive loss of strength. The patient falls off in weight, and there are disturbances of the stomach and bowels. There is constipation, difficult breathing, and insomnia. The obstruction of the portal circulation may cause dropsy and piles. The stools will be found to be clay colored. The abdominal veins around the navel are enlarged and form what is called the "Caput Medusæ." There is no jaundice. The outlook is not very favorable,.

Hypertrophic Cirrhosis. In this disease the liver is enlarged. The disease occurs chiefly in young people. There is jaundice. It may be very marked. There is no dropsy. There is pain in the region of

the liver, with nausea and vomiting. The liver may be felt in the upper abdomen on the right side. Normally it comes down to the edge of the ribs.

Treatment. We may expect the best possible results from osteopathic treatment. There are cases, though, that resist all treatment. The liver may be stimulated by treatment in the middle and upper part of the back, say from the sixth dorsal to the first lumbar. See Nos. 34, 43, 44, 48, 49, 52, 53. This work will assist in regaining vaso motor control. All lesions found must be removed. The liver may be worked over, as in Nos. 101, 102. Also work under the lower ribs carefully, as in Nos. 93, 94, 103. This work is to be done, of course, on the right side.

A deep, careful abdominal treatment should be given. See Nos. 95 to 100. This is for the purpose of freeing up the circulation of the portal vein. The ribs on the right side must be raised if depressed. Correct them if luxated in any manner. See No. 93, also Nos. 101, 102. The diet should be food easily digested. Alcoholic drinks should be prohibited, as well as tea, coffee, spices, and all condiments which tend to excite the intestinal tract. Never allow the patient to overeat. and never eat too much of any particular diet. Cabbage, beans, pork and pastry are forbidden. Some difficult cases call for an exclusive milk diet, which may be diluted with vichy if the patient is unable to take it straight. Drink plenty of water, vichy, ginger ale and peppermint tea. Regular hours should be kept as regards

sleeping. The patient should take regular exercises. In many cases walking in the open air is good.

The patient should bathe regularly and keep the skin active. In addition to the full tub bath, taken once or twice per week. the patient should take a cold sponge bath every morning with a brisk rub. Under medical treatment the bowels are to be kept open with Epsom salts.

FATTY LIVER.

(Fatty Infiltration of the Liver. Fatty Degeneration of the Liver.)

This disease is treated practically the same as for cirrhosis of the liver, which see.

PERIHEPATITIS, ACUTE AND CHRONIC.

Treatment is the same as for cirrhosis of the liver, which see.

CONGESTION OF THE LIVER.

(Hyperaemia of the Liver.)

When digestion is under way the liver is congested. A lazy man who is a hearty eater has a congested liver constantly. It may be caused from over indulgence in eating and drinking, or it may be occasioned by the various infectious fevers.

In active congestion of the liver there is constipation or diarrhœa, scanty, high-colored urine, a loath-

ing of food, nausea, vomiting, fever, with headache and coated tongue.

The osteopathic treatment should be very successful. The spine should be thoroughly treated. See Nos. 34, 43, 36, 47, 48, 50, 53, 57, 58. Remove all spinal and rib lesions. Raise the ribs. See Nos. 82, 86. Work over the liver as in Nos. 93, 101, 102. Give a thorough abdominal treatment. See Nos. 94, 95, 96, 97, 98, 99, 100. It will be well to give an enema, a tablespoon of salt to a quart of water. Drink plenty of water at various times during the day. Use sour lemonade. A liquid diet is to be preferred. Let up on the eating.

The medical treatment would be a half grain of calomel every hour for six hours, followed later by a dose of salts. Rest in bed with diet and drink as above.

PASSIVE CONGESTION OF THE LIVER.

This may be caused by diseases of the lungs or pleura, pressure on the vena cava, and from valvular heart disease. The treatment for this condition, of course, must vary with the cause of the disease. Most cases of congestion are to be treated as above, with treatment of the underlying cause.

PERITONITIS.

Is an inflammation of the peritoneum, a serous membrane lining the abdominal cavity, and enclosing the contained viscera.

The disease may be acute or chronic. It may be caused by a blow or strain, or infection following obstruction, or typhoid fever, or tuberculosis, or gonorrhœa.

When the disease is acute there is distension of the abdomen, with tenderness and great pain. There is constipation and vomiting. The temperature ranges from 102 to 104. The pulse is hard and is from 110 to 140, and the patient breathes 25 to 40 times per minute.

The treatment calls for relaxation of all the spinal tissues, with inhibition in the lower dorsal and upper lumbar region. See Nos. 47, 48, 50, 52, 53, 67. Give a careful abdominal treatment. See Nos. 94 to 103, 67. The inhibition checks peristalsis of the bowels and the relaxation of tissues assists circulation. This work may all be done with the patient lying on the back. This treatment should be given two or three times per day. A liquid diet should be given, cracked ice for the thirst and give an enema for constipation. The ice bag or hot fomentations are used over the bowels. Medical treatment calls for the use of morphine to control the pain.

Inflammation of the bowels, hysterical peritonitis, obstruction of the bowels of any kind, the rupture of the superior mesenteric artery, or a tubal or other extra uterine pregnancy may simulate peritonitis.

CHOLERA.

Cholera Nostras. Sporadic Cholera. Acute Gastroenteritis.)

This is an acute condition, characterized by vomiting, purging and abdominal pains. It is frequently accompanied by muscular pains and cramps.

This disease is frequently met with in the summer, and follows sudden changes in the temperature of thirty to forty degrees and over. It is caused by exposure to wet and cold. and the eating of unripe or overripe fruit; also vegetables of the same kind and canned goods and ice cream, etc.

It begins suddenly. There may be a temperature of from 101 to 105 degrees. As the case progresses the pulse becomes weak and the extremities cool.

Treatment. Rest in bed. Thoroughly relax all the spinal tissues. See Nos. 34, 43, 47, 48, 53, 57. Spring the spine gently from the upper dorsal to the lumbar region. See Nos. 57, 61. The spine should then be inhibited by holding it strongly just above the lumbar region as in No. 67, or a book may be placed under this same region as in No. 67, Fig. 66. This treatment will stop the peristalsis of the bowels, and thus stop the drain on the system. This inhibition should not be given until we are sure that all irritating substances have been expelled from the bowels.

Most medical writers recommend an evacuation of the bowels, either with a dose of castor oil, about one ounce for an adult, or a dose of Epsom salts.

The diet should be bland and mild. Burnt flour soup, tea and toast, peppermint tea, some boiled rice.

For the intense thirst give cracked ice, very weak, cold tea, without sugar, and not much water, because it tends to further loosen the bowels. In a very severe case food may be withheld for twenty-four hours and a slow return made to solid food, among which should be well-boiled rice, soft-boiled eggs, milk toast and crackers.

CHOLERA INFANTUM.

This is a disease with symptoms much the same as cholera morbus, only in many cases more pronounced. When occurring in children two years or younger it is called cholera infantum. It is often due to poisons generated in the milk or other food, which profoundly affects the nerve centers.

The stomach and intestines should be emptied as soon as possible. This is quickly effected by irrigation. The temperature when high should be regulated by baths, and if below normal, hot water bags should be applied to the body. The bath for reducing fever should last for from ten to twenty minutes. It should be given often. An ice cap may be applied to the head.

After the stomach is cleansed nothing should be taken but a little ice and brandy. The regular diet should be restored only gradually after the symptoms have subsided.

The pain and colic may be relieved by strong inhibition above the small of the back. See No. 67 The child may be lifted well off the bed by clasping the hands beneath the back where we desire to inhibit. This will give the desired pressure. Hold for a minute or two. All of the tissues of the back should be thoroughly relaxed. See Nos. 48, 57, 58, 34, 43. Relax the tissues of the neck. See Nos. 1, 5, 9, 10, 11. Pressure above the sacrum will stop cramps in the legs. An ice bag applied there and to the lower lumbar region will do the same.

DYSENTERY.

(Bloody Flux.)

This is an acute or chronic disease of the colon. or large intestine. It may lead to ulceration. There are mucous and bloody stools. There is griping pain in the bowels, and a bearing down sensation, with an almost constant desire to go to stool. There may be a low fever and vomiting at the beginning of the trouble.

The disease may be brought on by polluted drinking water, indigestible food, sudden changes of weather or unsanitary conditions.

Treatment. The patient should rest in bed. A thorough relaxing spinal treatment should be given. See Nos. 47, 48, 57, 58, 43. Deep inhibitive treatment should be given over the abdomen. See Nos. 94 to 100. Pressure should be exerted on the spine (inhibitive) from the middle dorsal to the lower lum-

bar. See No. 67. One prominent medical writer recommends the giving of one drachm of Glauber's salts (sodium sulphate), from four to eight times per day, until blood disappears from the stools, usually for two or three days. Light poultices, or turpentine stupes or fomentations, will be especially soothing to the patient.

The diet should be restricted to milk, broth, beef juice and egg albumen.

DIARRHŒA.

It is always well to determine the cause of the disease. With this trouble there may be several causes, one or more of which may be present. They may be enumerated as follows: (1) Indigestible, overripe or green fruit. (2) Sudden changes in the weather temperature. (3) Poisons generated in the food, as in milk, ice cream, etc., or minerals which may have been taken as drugs. (4) Nervous symptoms resulting from the emotions as fright. (5) Various diseases as cholera, typhoid fever, tuberculosis, etc. (6) Predisposing causes as anatomical derangements of the spine.

Treatment. If the disease arises from either of the first three of the above causes a dose of castor oil, followed by an enema, is indicated, followed by a relaxation of all of the tissues of the spine and back. See Nos. 34, 36, 43, 48, 57, 58. If the condition arises from nervousness, rest is indicated and a thorough general treatment for the underlying causes

should be given three times per week for two or three months. See general treatment.

A boiled-milk diet and egg albumen may be resorted to until the troublesome symptoms have abated.

When there are anatomical misplacements they should be removed. There are such causes in every chronic case, and hundreds of such cases have been permanently cured by the removal of such lesions. As a paliative measure to relieve when the peristalsis of the bowels are persistent see No. 67.

CONSTIPATION.

This is a very common trouble with all ages and both sexes. It poisons the system, and by undue pressure of the fecal mass against soft tissues, is a prolific cause of many other diseases. Retention and hardness of feces, irregularity and insufficiency of bowel evacuation, are regarded as constipation.

This trouble may be caused by any one or any combination of the following: Lesions of the spine or ribs, affecting the blood or nerve supply of the bowels, poor peristaltic action, mechanical obstruction, impairment of quality or absence of bile, a flabby or pendulous condition of the abdominal walls and muscles, inattention to the calls of nature, dependence upon purgatives, improper diet, lack of exercise.

Treatment. The most important thing to do is to remove the real cause of the torpidity of the

bowels. The lower half of the spine will be generally found at fault. A common condition is a tension of the ligaments binding the vertebræ together, with a posterior condition of the lower dorsal and lumbar vertebræ. This affects the nerve supply to the bowels. This may be overcome by a thorough loosening up of these tightened conditions by manipulation, as in Nos. 43, 44, 48, 49, 51, 63. The entire muscular structures of the lower part of the back must be relaxed. See Nos. 64, 47, 53, 58. The lower ribs if down must be raised. See Nos. 90, 91, 92. The bowels should be thoroughly manipulated. See Nos. 94 to 100. Fecal obstructions may thus be loosened and passed along the intestinal tract. Some writers recommend rolling a cannon ball, wrapped in some suitable covering, over the intestines for five or ten minutes each morning and evening. All spinal lesions, of whatever nature, should be removed. See examination of the spine.

In a very elderly person, or where the abdominal walls are flabby and pendulous, a suitable abdominal belt should be worn until the tissues can be toned up by the osteopathic treatment. This will hold the contents from sagging and obstructing the general circulation of the pelvis.

Every one should have a regular time to go to stool, and those liable to suffer from constipation should let nothing interfere with this important duty. Many cases of fecal retention start from neglecting the calls of nature. When suffering from constipation go whether you feel the necessity or

not, and when you go do not be in a hurry, but expect a movement. Do not strain. It is very injurious for a woman to do so, and in either sex may cause piles.

Stop the use of purgatives, however simple and harmless they may be said to be. In using purgatives the doses must be increased, the drug must be changed for another, until it is almost impossible to secure an action. Nature grows dependent upon these and their use only confirms the condition and makes the cure all the more difficult.

Should the bowels prove a little obstinate to the above treatment, at first, use an enema, in which a tablespoonful of salt is used to a quart of water. Use a fountain syringe. Retain the water a half hour if you can, meanwhile massaging the bowel contents. This should not be done but every other day, and must not be continued long. Continued use of such a treatment weakens the tissues and stops the proper secretions.

Diet. The diet should receive special attention. Most people are accustomed to a too concentrated diet, in which there is too little to pass through the intestines to help excite the peristaltic action by friction on the nerve terminals. All of the following foods are splendid for constipation. A diet may be selected from them, and in case anything is known not to agree with the patient it may be omitted from the list: Tomatoes, lettuce, spinach, asparagus, beans, peas, corn, potatoes, cabbage, celery, boiled

Spanish onions, carrots, turnips, squash, pumpkin, and cauliflower.

Corn and Indian meal, oatmeal, shredded wheat, coarse graham bread, graham gems, bran bread and bran biscuits. The bran may be mixed with graham or white flour. The bran may also be eaten raw, as much as three or four tablespoons per day. Olive oil may be eaten on salads, lettuce and tomatoes. Use plenty of butter. All fruits with small seeds are excellent, such as figs, raspberries, blackberries, strawberries, grapes and huckleberries.

Grapefruit, cherries, prunes, oranges, pears, peaches and apples are all splendid. Some of the above may be stewed if the raw fruit disagrees.

English walnuts, butternuts, walnuts and almonds. Water, coffee, cider, grapejuice, buttermilk and sour milk are all desirable.

Foods to Avoid.

Fried foods, rich sauces and gravies, sweets, pastry, pickles, cheese, starchy puddings, tea, sour wine, red wine, eggs, milk, or any other highly concentrated foods.

Two glasses of water should be taken on rising in the morning. Drink plenty of water between meals and a glass or two on retiring. Water taken on an empty stomach is absorbed by that organ and goes through the portal circulation to the liver, where it performs a healthful work. If plain water disagrees, flavor it with lemon juice or a little spice.

A daily cold bath, followed by a vigorous rub until the skin is made to glow, is a useful adjunct.

If the patient follows a sedentary life, and is indoors much of the time, exercise is to be recommended, such as walking, horseback riding, tennis playing, bowling, etc.

ENURESIS.

Incontinence of Urine. Bed Wetting.

This trouble is a nervous condition, which interferes with the normal nerve impulses in the lumbar region of the spinal cord and produces an involuntary discharge of urine. The lesions found are in the lower dorsal, lumbar and sacral regions. Their removal leads to a permanent cure. Frequently the lumbar portion of the spine is stiff and straight. Treat about twice per week. See Nos. 51, 52, 57, 58.

While the patient is in the knee-chest position the ischia may be gently separated as in Fig. 108. The abdominal contents may be lifted up, as described in paragraph 96, taking care to begin as low down as the pubis, so the bladder and uterus may be elevated some. The sacroiliac synchondrosis should be slightly loosened, as indicated in paragraphs 106 and 107.

This treatment, properly given, will effect a cure. If the patient is nervous give a general treatment in addition. See general treatment.

The patient for a time should eat the largest meal

at noon. Drink plenty of water early in the day and up to about three hours before bedtime, after which very little or none should be taken. The foot of the bed may be elevated at night. A cold sponge bath, followed by a brisk rubbing with a crash towel, should be taken on rising in the morning.

Holt says that punishment of any kind should never be employed, as it is absolutely harmful, but he finds that a system of rewards, in the case of children, works well. If the child especially desires a doll, bicycle or pony allow him to have it, as long as the bed remains dry. A nickel for each night that remains dry is very helpful. With the above treatment the author has been very successful in overcoming this very annoying condition.

CYSTITIS.

(Inflammation of the Bladder.)

This inflammation may be acute or chronic, and may be caused by gonorrhœa, unclean catheters, retention of urine, and colds.

The symptoms are bearing down pains over the bladder, with tenderness in the same region on pressure. The urine is scanty and often highly colored. It may be tinged with blood and contains blood and mucus.

Treatment. The patient should rest in bed, with the hips slightly elevated. Remove any lesions found in the lower dorsal and lumbar regions, and stimulate over the lumbar and sacral region. See Nos. 51, 52, 57, 58. Should there be pain in the bladder inhibit in the above regions. See No. 67. Local abdominal treatment should be given, lifting up on the contents of the abdomen, especially the lower part. See Nos. 96, 97. Give a thorough general and inhibitive treatment to the bowels. This helps to draw the blood away from the bladder. See Nos. 94, 95, 100. Treat in acute cases once or twice daily.

Hot sitz baths and hot applications over the bladder will be helpful. Use the liquid diet. Drink plenty of water. Peppermint tea is splendid. The medical treatment often recommended is to keep the bowels open with the use of salts. Irrigation of the bladder, with a soft rubber tube and a fountain syringe, using a two per cent solution of boric acid. A formalin solution is used for the same pur-

pose, five to ten drops to a pint of water. In either case the water should be sterilized by boiling.

UREMIA.

Is a poisoned condition of the system, which sometimes develops in nephritis or anuria, due to the presence of toxic material, which should have been eliminated by the kidneys. It may also follow gout, scarlet fever and typhoid fever.

The onset is sudden, the face is pale, pulse is slow. There is often a dropsical condition and the breathing is difficult. The urine is scanty and contains albumen. There is nausea, vomiting, delirium and convulsions. There may be paralysis.

The treatment is administered for the purpose of stimulating the kidneys and skin to activity. Thorough work must be performed from the fifth dorsal to the second lumbar vertebra. See Nos. 43, 44, 48, 51, 52. Treat the abdomen deeply and thoroughly at and above the umbilicus. See Nos. 94 to 100. Treat the upper dorsal and neck region to stimulate the heart and lungs. See Nos. 53, 1, 5, 7B, 7C. Raise the ribs. See Nos. 81, 88. Treat strongly at the base of the skull. See No. 7B. Give a warm salt water enema, in which a tablespoonful of salt has been dissolved to each quart of water. Hot packs will help to induce sweating.

Some medical authorities advocate active purging, with the use of salts. To induce sweating use either the hot bath or give one-tenth of a grain of pilocarpine three times per day.

ANURIA.

(Suppression of Urine.)

Anuria commonly means that the urine does not reach the bladder, a suppression of urine. Cases in which the suppression is absolute are very rare.

The trouble may be caused by acute Bright's disease, by lowered pressure of the blood, or when the fluids are depleted by diarrhœa. The ureter of a healthy kidney may be obstructed by pressure, or calculi may block both ureters. Severe injuries, or an operation, or lead, turpentine or phosphorus poisoning may act as a cause. Patients have lived for ten days with complete suppression of the urine. One writer records recovery after a suppression of nineteen days.

Treatment should be given mainly to stimulate the spine at the tenth, eleventh and twelfth dorsal vertebræ. This may be extended from the sixth dorsal to the second lumbar vertebra. See Nos. 43, 44, 48, 51, 52.

Draw the muscles away from the spine, as in Nos. 31. Treat the abdomen in a thorough manner to draw the blood there and relieve congestion. See Nos. 94 to 100. The bowels should be kept open. The skin should be kept active by hot tub baths and hot packs. Hot salt water enemas should be taken.

ADDISON'S DISEASE.

This is an affection of the suprarenal glands. It is characterized by heart weakness, gastro-intestinal symptoms, and a bronzed condition of the skin. Medical writers claim the real cause to be unknown, but the disease has followed blows upon the back and abdomen; also caries of the spine. They say that the disease is fatal and recovery is unknown. It occurs mostly in men btween the ages of twenty and forty. Ninety per cent of those who suffer with this disease are laborers.

Do not diagnose every case of pigmented skin as Addison's disease. Prostration is present before any other symptom and becomes more marked. Remember, that in cancer, tuberculosis, liver troubles, pregnancy, exophthalmic goiter, and in marked brunettes this bronzed condition is present.

The patient may be kept in bed. A light diet, but nutritious, should be employed. Some prefer a strict milk diet. In some cases a light, agreeable form of exercise may be employed.

This disease has been cured under Osteopathic treatment. A general treatment should be given, paying particular attention to the articulations of all the vertebræ. See general treatment. Lift the lower bowel from the pelvis. See paragraphs 96 and 97. The patient should receive a treatment every other day for a while.

CONGESTION OF KIDNEY.

The osteopathic treatment will be the same as for anuria. Medical writers recommend a calomel purge of from five to ten grains, followed by a good dose of salts in a few hours. Warm baths and enemas are recommended.

MOVABLE KIDNEY.

Floating kidney, palpable kidney, nephrotosis, are terms used to denote the various degrees in which a kidney may be removed from its normal position. Its most common occurrence in women is due to the wasting of the fat tissues which hold it in place, weakness of the abdominal walls from repeated pregnancies, and tight lacing. In men it may be due to heavy lifting, strains, tumors, etc.

With the patient lying on the back, the knee flexed, the operator stands at the left of the patient and with the left hand placed behind the eleventh and twelfth ribs on the right side, the right hand just below the liver over the upper abdomen, pressure may be made with both hands, and a hard, rounded body may be detected with a tendency to move upwards. It may be so low that the upper part of the kidney may be palpable, or it may be felt in the lower part of the abdomen.

In most cases there are no symptoms. There may be nervous symptoms and dyspepsia. With the floating type there may be severe pain, chills, fever and vomiting with collapse.

Treatment. Build up the patient. Increase the fat. See diet in tuberculosis. Give a general osteopathic treatment three times per week. The kidney may be pushed up and an abdominal belt worn to hold up the abdominal contents, thus assisting in holding the organ in place.

ACUTE BRIGHT'S DISEASE.

(Acute Nephritis. Acute Inflammation of the Kidneys.)

Acute inflammation of the kidneys may be caused by exposure to cold and wet and to poisons generated by the acute infectious diseases, such as scarlet fever, measles, diphtheria, small pox, chicken pox, malaria, meningitis, tonsillitis, etc. It may also be caused by turpentine, cantharides, carbolic acid, and potassium chlorate. Pregnancy is also a cause, occasioned by pressure on the renal veins. Extensive burns are frequently followed by this disease.

Symptoms. The urine is high colored and scanty. It contains blood and albumen. To test for albumen, boil a little urine in a test tube over a spirit lamp. If it becomes cloudy add a drop of nitric acid. Should the cloudy condition persist it indicates albumen, but if it clears up on adding the acid it is an indication of phosphates. The pulse is hard. The face, particularly under the eyes, and the ankles may be swollen. There may be pain

in the back, with vomiting. There may be fever of from 101 to 103 degrees. The skin is dry.

Treatment. Lesions should be looked for from the cervical region to the lumbar. Lesions found should be removed. Special stimulation should be given from the sixth dorsal to the second lumbar vertebra. See Nos. 34, 43, 44, 48, 51, 52. Work over the lower lumbar region and stimulate the sacral nerves. See No. 57. Give a thorough abdominal treatment at and above the umbilicus. See Nos. 94 to 100. Give an inhibitive treatment in the lower abdomen. Use hot tub baths and the hot packs. See hot packs. Until the patient is better treat each day. Later, three times per week will be sufficient. The patient should rest in bed. Use a liquid diet. Drink plenty of water, lemonade, mint tea and buttermilk. It would be best to live on an exclusive milk diet for several days. It should be sipped slowly. An adult needs from two quarts to four quarts daily. It may be diluted with vichy or carbonic acid water. If the milk can not be made to agree with the patient, gruels may be given, made of arrowroot, rice, oatmeal, etc., but vegetables and meat are interdicted. A splendid drink is a drachm of cream of tartar in a quart of boiling water. Add the juice of a lemon and a little sugar. Drink when cold.

Orange juice, baked apples, stewed prunes, rice pudding and blancmange may be added later. Return to a regular diet should be slow. Even then use plenty of milk and avoid highly-seasoned and

spiced foods, rich foods, pastry, alcoholic drinks, tea and coffee.

The medical treatment, if desired, would be to have the bowels kept active with calomel, followed by salts. In case the hot bathing and packs failed to induce sweating, give children one-twelfth to one-eighth of a grain of pilocarpine three times per day, and for adults one-sixth to one-fourth of a grain until the skin becomes active.

CHRONIC BRIGHT'S DISEASE.

There are two forms recognized, the chronic diffuse, or parenchymatous nephritis, and the interstitial nephritis, or cirrhosis of the kidney or contracted kidney.

Symptoms. In diffuse nephritis the urine is scanty, high colored, cloudy and contains much albumen. In interstitial nephritis the urine is abundant, light colored and contains albumen. See the acute form. In both there are stomach and intestinal disturbances, headache, loss of appetite, dropsy, puffing under the eyes, rapid heart beat, changes in the retina. The outlook is bad in both cases, but more favorable in interstitial nephritis.

From the osteopathic standpoint the treatment will be along the same general lines as for acute nephritis, only it will be given from three to four times per week in hope of prolonging the patient's life.

Systematic exercise out of doors is a good thing

for a patient with this disease. He must be free from care and worry. Thoroughly masticate the food and do not overeat. Oranges, lemons, apples and stewed prunes will be helpful in keeping the bowels open. After the discovery of the disease it will be well to try a milk diet for two to four months. The milk may be thickened with tapioca. sago or rice. Large amounts of the milk may be taken in weak coffee or tea. From two to four quarts will be sufficient for an adult in a day. When a change is made to solid food it will be well to take some milk. Corn bread, sago, tapioca, rice, macaroni, fresh, green vegetables, bacon, butter, potatoes, olive oil, the white meat of chicken, raw oysters, clams and fresh fish, a little mutton or fresh beef may be taken. The patient is urged to drink plenty of water, both hot and cold, also lemonade, buttermilk, ginger ale and the cream of tartar drink advised in acute nephritis.

DROPSY.

(Ascites, Renal Dropsy.)

Ascites is dropsical condition of the abdomen, due to the accumulation of fluid in the peritoneal sac. It is generally caused by some other disease or diseases. It may follow diseases of the liver, heart, lungs, kidneys, or it may be secondary to la grippe, fever, etc. It may be caused directly by an obstruction to the portal circulation or to an abdominal tumor. We look for lesions in the spine,

in the upper lumbar and lower dorsal regions, also among the ribs.

The treatment in general should be directed to the removal of the first cause, and in addition we should stimulate the kidneys. See treatment in Bright's disease.

It will be well to give a thorough general treatment. See general treatment. Special attention should be given to the upper dorsal region. Work here will stimulate the skin. Give a deep abdominal treatment. See Nos. 94, 95. Treat the solar plexus. See No. 100. Manipulate and treat the limbs as in Nos. 113, 114, 116. Work over the liver and keep the bowels active. See Nos. 93, 101, 102.

Renal Dropsy. This is an accumulation of fluid in cellular tissues and lymph spaces from the arteries and veins, and is caused by the failure of the kidneys to carry off the surplus fluid, as they fail to do in various kidney diseases. See acute and chronic Bright's disease. The main treatment is, of course, directed to the cure of the primary condition. Keep the kidneys well stimulated by treatment in the lower dorsal region. Give a thorough general treatment for the purpose of toning up all the tissues. This assists the general circulation and retards the flow of fluid out of the blood vessels into the lymph and other spaces.

ARTERIOSCLEROSIS.

(Atheroma.)

This disease is a thickening of the walls of the arteries, due to chronic inflammation of the inner coat (intima). It is often hereditary. Gout, syphilis, rheumatism, alcoholism, high and fast living act as exciting causes. This disease is often a forerunner of heart, liver, and Bright's disease and apoplexy. One great cause of this disease is overeating. We eat too much. We keep it up too long. I agree with George Cheyne, that every man after fifty, it would be well to begin at forty, ought to lessen the amount of his food, and every seven years after lessen it sensibly and gradually, and at last descend out of life as he ascended into it, even into the Child's Diet. He says that this would keep the faculties and senses clear and keep us free from great and dangerous distempers. He further says: "Milk and sweet, sound blood differ in nothing but color. Milk is blood."

Symptoms. They are obscure, but in many cases there is a hard, bounding pulse, difficult breathing, and insomnia. It generally appears after forty.

Treatment. A general osteopathic treatment is indicated. See general treatment. Stimulate between the second and fifth dorsal vertebræ. See Nos. 34, 38, 43. Raise the ribs. See Nos. 84, 86. Work over the liver. See Nos. 93, 101, 102. Give a thorough abdominal treatment. See Nos. 94, 95. Stimulate the solar plexus. See No. 100.

Diet. Let the meals be taken regularly. Drink plenty of water between meals. Leave alcohol alone. Use vegetables rather than meat. If there are renal symptoms, skimmed milk is a most excellent diet.

PHLEBITIS.

Inflammation of Veins.)

This may be simple or it may be septic, or it may be septic with bacteria from some neighboring suppurative process. The veins are firm and painful to the touch, and are surrounded by inflamed tissue. There is swelling and pain, with some heat. There is stiffness of the limb. The skin is discolored. Pressure, without or with injury, may act as a cause for this disturbance. Often there is no history of violence or accident. Most simple cases occur in the lower limbs. Should it be in the pelvis, ear or portal vein, the condition is most grave and surgical assistance may be necessary.

Treatment. The patient must rest, sometimes for a month or six weeks. When the trouble is in the lower limbs the trouble is looked for at the eleventh dorsal and below this point, as far as the sacrum. Remove the lesions as far as possible and give stimulating treatment in the lower dorsal and lumbar regions. See Nos. 43, 44, 48, 51, 52. Rotate and manipulate the lower limb with great care, as in Nos. 113, 114.

Give slight torsion about ten times each way per

treatment, as in No. 121. Gently rub tissues of the limb in the direction of the heart.

Diet. The diet should be light. Keep the limb elevated as much as possible. Hot fomentations may be applied for a while. Some medical authorities advocate the use of lead water, used as a cold compress.

VARICOSE VEINS.

Varicose or enlarged veins are more common in the lower limbs. In general they are due to an obstruction to the return circulation. The condition may be partly caused by a diseased liver or heart, relaxed abdominal walls, and ptosis of the intestines. Constipation may help in increasing this disorder, as may a pregnant or misplaced uterus. The Osteopath looks for lesions in the lower dorsal and lumbar vertebræ, or in a slipped innominate bone which brings undue tension on some muscles and ligaments.

Treatment. In general this is a stimulating one in the lower dorsal and lumbar regions. See Nos. 43, 44, 48, 50, 51, 52. Manipulate the limb. See Nos. 113, 114, 121. Give abdominal treatment. See Nos. 94 to 100. Lift up abdominal contents. See Nos. 96, 97. If the heart or liver is involved, this calls for treatment for this special ailment. If constipated, see special treatment for that.

Some medical writers order salts to keep the bowels open and order an elastic stocking. Under osteopathic treatment the elastic stocking may be removed.

HODGKIN'S DISEASE.

Adenia, General Lymphadenoma.

An affection of the lymphatic glands, characterized by progressive enlargement. Nodular growths also form in the spleen, liver and lungs. The enlargement usually begins on one side of the neck. Three-fourths of all cases occur in males. It is a disease of young and middle-aged people, from 10 to 40 years. The medical profession have been unable to find a cause. The submaxillary and cervical glands are first noticed to be enlarging. These grow to be as large as a hen's egg or orange, and in months or years, lymphatic glands in the axillary and inguinal, and, it may be, other internal glands, enlarge. During the first stages of the trouble the general health seems fair, but as the disease progresses the patient becomes pale and weak. There are headache, difficult breathing and disturbances of the stomach and bowels. There appears a chronic relapsing fever. Of course as the glands enlarge there will be various pressure symptoms, as the glands affect different nerves. The pressure of the axillary glands on nerves there will cause pain and swelling in the hands and arms. The inguinal glands, in the same manner, will be the cause of great pain in the limbs and swelling of the feet.

Cough, pain and difficult breathing will be the result of swelling mediastinal glands. Tuberculosis is so often present that it is thought to be one cause of the trouble. In young persons it is difficult to determine whether it is Hodgkin's disease or tuberculosis when the glands of the neck begin to swell, but more frequently it is tuberculosis. When there is considerable progress in the disease the patient becomes greatly emaciated.

In some cases the enlargement of the glands progresses rapidly and the case ends fatally in three or four months, but under medical treatment we expect the patient to last two or three years.

In treating this disease the Osteopath desires to secure an unobstructed circulation of the blood. lymph and nerve supply, for he believes that this disease, as most other troubles, is the result of the obstruction of these functions of nature. An obstruction of these forces occurring, the lymph and blood stream grows stagnant and proves an excellent breeding ground for any pathogenic germ.

The Osteopathic treatment is given by thoroughly treating the neck (see treatment of the neck, paragraphs 1, 2, 3, 4, 5, 9, 11, 13), the object being to secure a thorough relaxation of all the tissues of the neck. The clavicles are raised as in paragraphs 72 and 73. The ribs are adjusted as it is found necessary from the examination. See paragraphs 74 to 89. The spine is treated as in paragraphs 48 to 64, using such treatments as are indicated from the examination. Treat over the abdomen. See treat-

ment of the abdomen. Remove all lesions where found and look for some spinal curvature. Lift up the glands carefully, so as to improve the circulation, and hold for a few minutes. Do not handle these glands roughly, as it is easy to injure them. In treating, after the manner described, we expect to stop the course of the disease and to secure improvement, with sometimes a cure.

THE HEART.

In treating all diseases the Osteopath is very much concerned in securing a free passage for lymph, blood and nerves, for he knows that if the nerve and fluid circulation is free in every way the patient will soon regain his health. The arterial system should be kept free and the venous return should be unimpeded on its way back to the heart and lungs for purification. The obstruction of the return circulation is a very prolific cause of disease. When the impure blood is held back, in or near any organ, it stagnates, ferments, is the cause of hypertrophy and furnishes a breeding place for germs.

When there is an obstruction to the circulation, in or near any organ, due to mechanical maladjustment of some part of the anatomy, or in the capillary system, due to arteriosclerosis, an added burden is placed upon the heart to supply all parts of the body with blood. This extra burden often leads to hypertrophy. So important is the work of the heart in keeping the body well nourished with blood and keeping the blood in motion that we ought to be well informed as to its anatomy, nerve supply and physiological functions.

In nearly all cases of heart disease we find some pressure on the pneumogastric nerve. We remember that this nerve supplies both the heart and lungs. It

also goes to the stomach. When the lungs or stomach do not perform their work properly an extra burden is thrown upon the heart. Disorders of the stomach often result in palpitation of the heart. So in treating cases of heart disease we must carefully examine other organs and lesions which will affect them. Special attention is given to following the courses of all the branches of the pneumogastric nerves. In giving Osteopathic treatment we must look for first causes before giving the treatment. Unless we know and treat by removing these causes we may do more harm than good. This is especially true in treating heart troubles.

FATTY DEGENERATION OF THE HEART.

(Fatty Infiltration of the Heart.)

The heart muscles may be infiltrated with and largely converted into fat. There may be a fatty overgrowth, in which large amounts of fat are deposited in and about the heart. Of course this condition greatly weakens the heart. The osteopathic treatment is given with a view of stimulating and overcoming the condition. The nerve supply to the heart and vessels is corrected at the same time. This increases the strength of the beat and the general heart tone. The stimulation is given in the area of the second to the fifth dorsal vertebra. See Nos. 34, 43. The sympathetic ganglia in the neck are also stimulated. See Nos. 7C, also 1, 5, 7B. The ribs are to be gently raised. See Nos. 82, 86. A light general treatment, including the above, may be given three times per week. See general treatment. This will build up the general health. The diet should be nutritious, yet it ought to be light. Take the largest meal at noon. The patient should not be allowed to have fat, rich foods, cheese, goose, duck, sausage, cabbage and beans.

Exercise should be light, yet it may be gradually increased. Graduated exercises in hill climbing have been recommended. They should be carefully performed. The patient should be instructed in deep breathing, which see.

VALVULAR LESIONS OF THE HEART.

The outlook in most cases presenting valvular difficulties is not favorable, yet a number of cases have been cured by osteopathic procedure. At any rate, most cases may be benefited. Should these cases arise from lessened contractile power, or dilatation, the prognosis is very fair.

In the treatment we should look for spinal and rib lesions which have weakened the heart. These should be corrected. In general the patient will be treated as for pericarditis, omitting all inhibition.

The patient should lead a quiet, even life. All strenuous exercise should be prohibited. The bowels should move each day. Keep the body free from sudden changes of temperature, by the use of light woolen. The diet may be generous, but rich and heavy articles of food should not be eaten. Omit pastry. Do not take Turkish or Russian baths. Do not go into high altitudes. Cool sponge baths are good. Walking is splendid exercise.

Conservative medical treatment, in the early stages, would assist digestion with five drops of dilute hydrochloric acid in sweetened water after each meal.

PERICARDITIS.

This is an inflammation of the pericardium. It may be caused by the passage of a foreign object through the œsophagus or by arthritis, tonsillitis, rheumatism, necrosis of bone, puerperal fever,

chorea, Bright's disease, pneumonia, scarlet fever, tuberculosis, gout and arteriosclerosis.

The patient should have rest. He should be quiet mentally as well as physically. The best treatment is osteopathic. It is given to quiet the heart's action. We look for lesions of the first and second, fourth and fifth ribs and of the clavicles, all affecting the drainage of the pericardium. Stimulate the vagus nerve. See Nos. 7, 72, 73. This will inhibit the heart's action. Inhibit the spine from the sixth cervical to the sixth dorsal. See No. 67. The pressure here for inhibition should be prolonged. It is done while the patient is lying on the back with the left arm raised and held well above the head. See No. 61. Raise the ribs carefully. It gives the heart greater space in which to work and secures better drainage from the heart. See Nos. 82, 86. Work deeply and slowly over the abdomen and inhibit the spine from the tenth dorsal to the second lumbar. This draws the blood to the abdominal vessels and relieves the heart. See Nos. 67, 94, 100. Treat once or twice daily.

The ice bag should be applied over the heart an hour at a time with intermissions of ten minutes. Later keep it there continuously. Keep the air out of the bag as much as possible. The diet should be light and liquid.

TACHYCARDIA, BRACHYCARDIA, ARRHYTHMIA.

Tachycardia is a rapid beating of the heart, but without special sensation to the patient. Brachycardia is a slow beating of the heart without any noticeable sensation to the patient. Arrhythmia is an irregular beat, during which a beat may be skipped at intervals.

The rapid heart beat would be treated osteopathically the same as palpitation, which see. The brachycardia is treated the same, except the region between the second and sixth dorsal is stimulated instead of being inhibited. Always remove lesions wherever found.

Arrhythmia calls for the same general treatment. For an irritable heart treat the same as above. In all the above cases the patient should avoid alcohol, tea and coffee. The patient should not allow himself to become excited. The diet should be light. Articles of food which have a tendency to produce gas should be left out of the diet list.

PALPITATION.

Palpitation of the heart is a rapid beating perceptible to the patient. It may be accompanied with difficult breathing, increased force, irregularity, pain and anxiety. It is a sign of weakness when we are conscious of the heart beat, even though it be normal otherwise.

Some of the secondary causes are the excessive use of coffee, tea, alcohol or tobacco. It may occur after some fevers. It may accompany neurasthenia, hysteria or dyspepsia, especially when the stomach fills with gas. It has been noted at time of puberty, or the climacteric, and in some forms of functional trouble at menstruation.

The Osteopath looks for the primary cause in some anatomical maladjustment of the atlas or axis, first and second vertebræ, or one or more of the first five ribs, or the clavical. The upper spinal muscles may be abnormally rigid. The entire thorax may be too small on account of the ribs having too much downward slant.

Treatment. At the time of the attack the left hand of the patient may be held above the head and a steady pressure or pull be brought to bear on the second to fourth spinal vertebra. Continue this for five or ten minutes. See No. 67. Raise the ribs. See Nos. 82, 86, 87. Give a deep, inhibitive abdominal treatment for the purpose of relaxing the caliber of the abdominal vessels and drawing the blood there, thus quieting the heart's action. See Nos. 94, 95, 100. Stimulate the pneumogastric nerve. See No. 7. Raise the clavical. See Nos. 72, 73. Apply an ice bag over the heart. Should the atlas or axis be out of position, correct. See Nos. 1, 3. Loosen the upper spinal muscles. See Nos. 34, 43, 53. If the case is a chronic one give a treatment three times per week.

ENDOCARDITIS AND MYOCARDITIS.

These diseases are inflammation of the endocardium and myocardium. Both are very grave diseases, owing to the pathological changes taking place. The simple endocarditis is frequently cured. The treatment in both cases is the same as for pericarditis, with special attention to any specific lesion in the anatomical location named. See pericarditis.

ANGINA PECTORIS.

(Stenocardia, Breast Pang.)

These are paroxysms of intense pain over the heart region, which radiate to the neck, back and arms, generally to the left arm. It is associated with disease of the heart and vessels. There is a sensation of impending death. The attack usually comes on during some muscular exertion. It may be induced by cold, excessive anger or excitement.

Treatment. Inhibit at second to sixth dorsal vertebra. See No. 67. Loosen all tissues over the heart. Raise the ribs on the left side. See Nos. 82, 86. Treatment should be given afterwards to remove any lesions causing heart trouble. See pericarditis. Pay special attention to the bowels and kidneys. A quiet life should be led and the sleeping room should be cool. Do not overexert, and avoid excitement. Do not eat heavy, indigestible food.

Medical authorities advise if the patient is sub-

ject to the disease for him to carry a vial of amyl nitrite. When the attack seems pending inhale from two to five drops by dropping it on a handkerchief. This failing, inhale chloroform.

HYPERTROPHY OF THE HEART.

(Enlargement of the Heart. Dilatation of the Heart.)

This condition is due to a strain of the heart muscles. It may be due to prolonged overexertion. It is sometimes caused by valvular disease, due to nature's effort to normalize the defect. Exophthalmic goiter is a frequent cause. Obstruction of the circulation in the small arteries adds a burden to the heart's work. Nephritis, hepatitis and emphysema increase the heart's labor and are responsible for some cases. Alcohol, tobacco, coffee, and lead poisoning are sometimes responsible.

The treatment, of course, demands the removal of the primary cause, and if that cause is some disease then that needs treatment. The same care as to diet and general living is necessary as in valvular heart troubles. Lesions should be removed as in pericarditis, which see.

ANÆMIA.

(Secondary Anæmia. Toxic Anæmia.)

Anæmia is a term which is used to define any marked change in the blood, in the number of either white or red corpuscles, or in the amount of

the hæmaglobin, or albumen. It may be used to denote a deficient quantity as well as quality of the blood.

Secondary anæmia refers to anæmia resulting from loss of blood, due to hemorrhage. Toxic anæmia is caused by the action of poisons on the blood, as mercury, arsenic, lead and the poisons of syphilis, malaria, etc. For treatment, see Progressive Pernicious Anæmia.

CHLOROSIS.

Green Sickness.

This is a special form of primary anæmia which frequently affects girls, generally between the ages of fourteen and eighteen. It is associated with undeveloped vascular and generative systems. There is no loss of fat and the patient has a greenish-yellow tint of the complexion, from which the disease takes its name.

This condition dates from a scanty menstruation, which begins late, and therefore it appears to be connected with the evolution of the sexual life. It is hereditary, and if the mother's side of the family have tuberculosis the girls are liable to this disease. It is common among poor and overworked factory girls. Bad air, lack of outdoor exercise, rest and sleep, irregular eating and poor food all predispose to this disease.

The symptoms are fatigue and indisposition to mental or physical activity in the beginning of the trouble. Palpitation of the heart, difficult breathing, headache, constipation and scanty menses soon become prominent symptoms. The appetite is poor. The tongue is pale and dry and there is vertigo. The fat may be increased and the person maintain her

rotundity. But there is the peculiar color which may vary from the characteristic greenish shade to saffron, lemon-yellow, or muddy tint. There may be some irregular fever, nervous symptoms, mental depression and œdema of the ankles.

The prognosis is favorable under Osteopathic treatment. We should begin the treatment carefully, and not give it too severely at first. It would be well to give a gentle general treatment each day for about one week before searching for definite lesions. See general treatment. Look for lesions in the innominates, spine and ribs. If the treatment is followed carefully and persistently for some time we may expect the best of results.

The diet and hygiene should be carefully looked after. There should be plenty of fresh air, rest and sleep, with regular habits. Change of location or a trip to the sea or mountains will be helpful. If the girl is an indoor worker a change of occupation to out of doors should be tried. Plenty of easily-digested food should be allowed: green vegetables, stewed and fresh fruit, milk, eggs, fish and meat. Leave tea and coffee alone. A warm bath three times per week is indicated.

PROGRESSIVE PERNICIOUS ANÆMIA.

(Idiopathic Anæmia.)

This is usually defined as a grave disease of the blood, in which there is destruction of red corpus-

cles. The cause is unknown and the condition grows worse. There is pallor, shortness of breath, palpitation of the heart. The patient is tired. The white of the eyes is pearly. The pulse is large but soft. There is headache and vertigo. The food is repugnant. The skin assumes a lemon yellow color. The patient becomes more feeble and the flesh more soft and flabby, and the bed is soon taken. Fever is moderate. The tendency is towards paralysis. The ankles swell slightly. Under osteopathic treatment the procedure is about the same as in all cases of anæmia.

Treatment. The spine is to be carefully examined and all lesions are to be removed as fully as possible. The treatment is general. See general treatment. The treatments must be given lightly at first, and as the patient improves they may be given with more force and at greater intervals. At first the treatment should be given daily, later three times per week. This may be reduced to twice and once per week as the patient improves. The treatments should be continued for a long time. Keep the heart stimulated. See Nos. 34, 43, 7C. Constipation and headache should be treated as indicated as under those general heads.

Diet. Strict attention should be given to the diet. As the patient can handle it, good, nutritious food should be provided. See diet of tuberculosis. Let there be good ventilation. Out of door sleeping would be better. Take plenty of time for sleep. Keep regular hours. Exercise moderately. Give up

school for a time and avoid all social functions. Hot baths may be taken twice per week. Take a cold sponge bath, followed by brisk rubbing, each morning.

Medical Treatment. The bowels should be given attention and should be made to move daily. In chlorosis Blaud's pills are given, which contain two grains of the sulphate of iron. The pills are given in increasing doses. The first week one pill three times per day. The second week two pills three times per day. Third week three pills three times per day. This latter is kept up for three months.

In progressive pernicious anæmia arsenic in increasing doses is used. Three drops of Fowler's solution three times per day is increased to five drops at the end of the first week, ten at the end of the second week and fifteen the third week. Vomiting and diarrhœa are symptoms of an overdose.

Five to ten drops of dilute hydrochloric acid may be given, in all cases, in water, after each meal to aid digestion.

GOITER, SIMPLE.

(Big Neck. Bronchocele.)

This disease is an enlargement of a whole or a part of the thyroid gland. The causes of this disease have been variously given by different medical writers. Those given, however, are the exciting or secondary causes. The disease is much more frequent in women than in men. The goiter in-

creases in size at the menstrual period, and during each pregnancy it becomes larger. It is more prevalent in limestone regions and often hereditary.

The growth is painless, but may cause difficult breathing, difficult swallowing or loss of voice. It has caused sudden death by pressure on the vagi nerves.

The outlook under medical treatment is unfavorable, guardedly favorable as to life, but the disease is generally cured by osteopathic treatment. The real cause of the disease is an interference with the nerve and blood supply of this very vascular gland.

The neck should have the tissues thoroughly loosened, both front and back. See Nos. 1, 5, 6, 8B. 9, 10, 11. The cervical vertebræ should be lined up if found out of position. See Nos. 1, 3. The clavicles should be raised. See Nos. 72, 73. Depress the first rib. See Nos. 75, 76, 77. But little work should be done over the goiter, but it may be raised up gently at each treatment. See No. 8B. In many cases a general treatment will be helpful. See general treatment. Treatment may be given two or three times per week at first. When improvement is marked only once per week is indicated.

EXOPHTHALMIC GOITER.

(Graves' Disease. Basedow's Disease.)

This disease not only presents the large neck (thyroid gland), but there is a protrusion of the

eyeballs, a rapid heart, and a peculiar muscular tremor. The pulse may be from 100 to 160. The breathing, on exertion, is difficult.

This disease often yields quite readily to osteopathic treatment. The procedure is the same as for simple goiter, which see. In addition to this a general treatment is to be recommended as for nervousness. See general treatment. A wet pack may be placed about the neck at night. The patient should avoid excitement and should rest in a reclining position a great deal.

PARALYSIS.

Hemiplegia, paralysis of one side of the body; paraplegia, paralysis of the lower part of the body. In the various forms of paralysis, regardless of what may seem to be the cause, we are to look for lesions in every part of the spine, the ribs, the hips, the innominates and coccyx. When these lesions are found they are to be removed. The lesions in the neck, of the atlas and axis, are very important. Here may be the cause of paralysis in either arm or in any part of the body below this lesion.

Very many cases of paralysis, including all the types, from infantile to all the more severe types of the aged, have been greatly benefited and cured by Osteopathy.

In connection with the specific treatment for the removal of the lesion, a general treatment should be given. See general treatment. Give special atten-

tion to the neck. See Nos. 1, 3, 5, 9, 10, 11. Attend to the clavicles. See Nos. 72, 73. Spinal treatment will be necessary. See Nos. 34, 35, 36, 37, 38, 41, 48, 50, 52.

In some cases it is necessary to give the treatment for months in order to get a good blood supply to the nerve centers for the purpose of regenerating them and the nerves most affected.

The general health must be looked after. Particular attention should be given to the kidneys, bowels, liver and stomach. The affected limb or limbs should receive a thorough local treatment.

INFANTILE SPINAL PARALYSIS.

Acute Poliomyelitis.

This disease comes on and develops very quickly. The child may have symptoms of fever, with temperature of from 100 to 103 degrees, with some stomach trouble one day, and the paralysis may reach its height the following day. The symptoms vary greatly and there is no certainty of making a correct diagnosis until the paralysis appears. A child may retire at night in apparent health and awaken in the morning with paralysis. Boys are more subject to the disease than girls, and the cases are more common in the warm months. Over eighty per cent of the cases occur before the patient reaches the age of five, but a few young adults have the disease. There is almost no pain and there are no sensory disturbances. If the paralysis persists for a long time there is great muscular wasting in the part affected. In many cases there is recovery of most muscles without treatment of any kind, but a group of muscles almost always remains permanently paralyzed. These are often in one arm or one leg. In one to four weeks there will not be much change in the affected muscles, but in the following three months there will be some improvement and the paralysis that remains will most likely be permanent. Some have been greatly benefited when one and sometimes two years have elapsed since first being taken with the malady.

The Osteopathic treatment should be commenced early. If begun at once we may hope to stop the inflammation in the spinal cord and limit the destruction of nerve cells. When these are destroyed we can only hope for a partial recovery. The part of the cord involved may be determined by the portion of the body affected. If the leg, look for trouble from the eleventh dorsal through to the lumbar portion of the spine. If an arm is affected, we expect the cervical and upper dorsal portions of the spine to be affected. Administer the treatment carefully at first. See the treatments for the neck and spine. Keep the limbs warm. Put them through a passive motion, at least three times per day. Friction and massage will be of great value in keeping up the circulation and should be given twice daily for a long time. Some writers recommend that a spinal ice bag be used in the early stages of the disease. This tends to keep down the inflammation of the cord and at the same time helps keep the extremities warm. Do not use braces if you can possibly get along without them. The circulation is better and the improvement is more noticeable when the affected parts are entirely free. When there is a great deal of weakness braces often help one to get about and may be used in old cases.

In cases which are of several years' duration we do not expect to do much, but by giving the spinal treatment there will be improvement for a year or more. We never expect a complete cure.

APOPLEXY.

Cerebral Hemorrhage.

There are two forms of apoplexy: One, from the rupture of a blood vessel, intracranial hemorrhage; and two, thrombosis or embolism, which is occasioned by accute softening of the brain. The brain, softening, does not give the proper support to the walls of the blood vessels. This is accompanied by endarteritis, in which the lumen of the vessels is obliterated and embolism and rupture is the result.

This trouble is more common after the fiftieth year, but may happen in children of ten. Men are more liable to this disease than women. Among the many causes might be mentioned, **the overactivity of modern life.** There are many men who have attained the age of fifty years and have not been guilty of doing any of the things that ordinarily lead to this trouble. They have been temperate in eating and drinking and have not had any venereal diseases, nor have they had gout, but they have had apoplexy as a result of high-pressure living. They have been at a high tension attending to business and social duties all day and a part of the night, without sufficient time for needed rest. They find themselves at last with hardened arteries and some form of kidney trouble.

Overeating is another cause of apoplexy. There are many cases of apoplexy for which there is no other cause. Men really dig their graves with their teeth. We may harm ourselves by overeating as

well as by being intemperate in the use of liquor. We need to heed the advice of that old-time physician, Dr. George Cheyne, who said: "Every wise man, after fifty, ought to begin to lessen the quantity of his aliment, and if he would continue free of great and dangerous distempers and preserve his senses and faculties clear to the last he ought, every seven years, to go on abating gradually and sensibly, and at last descend out of life as he ascended into it, even into the child's diet." This advice, if followed, would ward off a number of diseases, including stomach troubles, obesity and kidney diseases.

Chronic Alcoholism, gout and lead poisoning are also important factors in causing this disease. They change the quality of the blood, and this in turn affects the arteries. They also set up renal changes which affect the blood and arteries as well. In most persons alcohol conserves fat, and this infiltrates in the walls of the blood vessels and weakens them, allowing the blood to force its way through.

Prolonged Muscular Exertion is a cause. This hardens the arteries by raising the peripheral resistance, thereby increasing the blood pressure, which gradually weakens the arteries.

Undue Blood Pressure in the brain is a great cause of apoplexy. The brain is a great storehouse of energy and nerve force. From it emanate thousands of nerve fibers, controlling every function of the body. This great work on the part of the brain requires an enormous amount of nutrition and elimination. This is especially true when the man is a

brain worker. This brain nourishment is conveyed through the arteries, veins, capillaries, lymphatics and serous channels which reach the head through the neck. We find surrounding the neck vertebræ more than thirty neck muscles, together with ligaments.

In and between these muscles lie the arteries and veins that convey the blood to and from the brain. The blood is pumped under direct pressure of the heart walls of the arteries. But the return blood, through the veins, which have thin walls, is under light pressure and may be held back by obstructions in the neck until undue pressure is exerted by the blood in the vessels of the brain. This pressure often results in the rupture of capillaries, which means apoplexy and paralysis, depending on the amount of blood escaping into the brain tissue and the seat of the lesion. In young persons we expect the capillaries to be more elastic and not to rupture so easily as in the case of older people.

When there is normal relaxation of the muscles of the neck there is normal circulation to and from the brain. When there is contraction of the muscles, the return flow from the brain is impeded, while the heart is still forcing the blood under increasing pressure through the arteries to the brain. This causes heavy, expanding pressure in the capillaries of the brain tissue. The blood cannot return fast enough through the veins on account of interference in the neck. The pressure rises higher and the capillaries break, the oozing blood forms a clot and apoplexy

is the result. Overexertion, a little excitement, brings on the attack without the least warning.

Symptoms. Before the attack it is very rare to have any warning symptoms. The symptoms of the attack vary very much in different individuals. The loss of consciousness may be sudden and complete or it may come on slowly. In many cases the face is cyanotic, pupils are dilated, one more than the other. The respirations are slow and noisy. The pulse manifests increased tension and is slow and full. The temperature is normal or subnormal, except in cases of basal hemorrhage, when it is frequently high. The head and eyes are often turned toward the side on which the hemorrhage exists. The muscles on the paralyzed side are flaccid. On elevating the paralyzed limb it will fall more quickly than the other. If bed sores develop within forty-eight hours it is a very bad sign. If the patient improves there may be paralysis on one entire side of the body. This paralysis will be more severe in some parts than in others, the arm being usually worse than the leg. The paralysis of the throat may be so severe that the patient can not swallow, and the tongue deviates to one side. The reflexes are increased after a week or so. When the patient begins to walk he drags the foot of the affected limb. There may appear a condition in which there is secondary contraction of the muscles, more especially of the arm, with considerable pain.

Diagnosis. It is sometimes difficult to diagnose this condition. When it is coming on slowly and

consciousness is not lost the apoplexy is sometimes not recognized. When you first see the patient and he is in a deep coma it may be the result of epilepsy, alcoholism, uræmia, or diabetes. Doctors in hospital practice need to be very careful in passing upon patients who are admitted in an unconscious condition when they have the smell of liquor upon the breath. Many are drunk at the time of an attack. Such cases should be regarded as serious and not as simply alcoholic coma.

Prognosis is very difficult to make with any degree of certainty. When the hemorrhage is slight the patient may entirely recover. When the paralysis persists for six months some grade of permanent palsy will remain. When the condition was first caused by an embolism stopping in a principal artery and shutting off the blood supply of a portion of the brain, resulting in softening, the outlook is serious.

Treatment. The patient should be kept quiet. The head of the bed should be raised. Place an ice bag at the head and use hot water bottles at the feet, not too hot. Place the patient on his side, changing from one to the other. This is for the purpose of avoiding pneumonia. The bowels should be moved freely and a good movement secured every day. It is significant that Dr. Osler says: "No medicine should be administered, at least during the first month after hemorrhage."

The Osteopathic treatment may be given at once. The muscles of the neck may be gently and

thoroughly relaxed while the patient is in the recumbent position. See paragraphs 5 and 10. Also loosen the muscles in the suboccipital region, as in paragraph 7B. Keep the spinal tissues relaxed (see paragraph 53), also treat the muscles of the spine while the patient lies on his side as shown in Figs. 59 and 31. Give inhibitive treatment over the abdomen, as in paragraphs 94 and 100. This treatment should be given twice per day at first, gradually diminishing until two treatments are administered per week. The paralyzed limbs should be treated and massaged to prevent contraction of the muscles. The joints of the elbow and shoulder may be kept from ankylosis by properly manipulating them.

The diet should be very light for some time, at least one month. Fruit juices are to be preferred. Light broths may be used. The patient should always, as long as he lives, be underfed rather than overfed. Avoid meat and all nitrogenous food. Do not drink more than one and a half quarts of water daily. The object is to keep down the amount of blood as much as possible.

Avoid all excitement as much as possible, live quietly and do not overexert, either mentally or physically. Do not use intoxicants. The patient is often easily irritated, but he should avoid becoming angry. A cheerful, happy and hopeful disposition should be cultivated. Some light mental occupation will be beneficial, but it should not be persisted in when the patient becomes weary.

INSOMNIA.

(Sleeplessness.)

Insomnia may be due to various causes. Congestion or anæmia of the brain, Bright's disease, liver, stomach and intestinal disorders may cause sleeplessness, or it may be due to nervousness or excessive headache. The Osteopath believes, and has splendid success in following it out to its legitimate conclusions, that the basis of the trouble may be found in some bony, ligamentous or other lesion, that disturbs the circulation and allows pressure to disturb proper nerve function. A large number of these cases are met and successfully overcome by the Osteopath. Frequently an improvement is noted with the first treatment. In many cases but few treatments are required.

In treating for this disorder the Osteopath looks for neck and upper spinal lesions. He pays particular attention to the clavical and two upper ribs. See Nos. 72, 73, 75 to 81.

Fully relax all spinal tissues. See Nos. 34, 36, 43, 44, 53. Give a strong abdominal treatment. See Nos. 94 to 100. After the specific lesions, that are found, are treated, a general treatment is in order. See general treatment.

When the person is excitable and there is a feeling of distension in the head, it will be well to keep the bowels regular. See the treatment for constipation. At night before retiring a hot bath, followed by a cool sponge bath, will be beneficial.

Another help is a cold pack applied to the abdomen. This soon becomes warm and draws the blood there. See cold pack. Ten minutes of good, cool, pure air, breathed properly, will materially assist in gaining needed rest. See correct breathing. It is often recommended that a glass of warm milk be taken just before retiring. Medical writers recommend a dose of trional, ten to twenty grains, to be given with food half an hour before retiring.

If the insomnia is caused by anæmia of the brain the patient is apt to start sleeping very well, but wakes later and can not fall asleep again. In addition to the osteopathic treatment as outlined above, cold water or ice, then hot water, may be applied to the spine in long rubber bags, each for fifteen minutes. For this form of insomnia medical treatment would recommend some form of stimulant at bed-time, say one-sixtieth of a grain of strychnine, or some form of alcoholic drink.

NEURALGIA.

(Facial Neuralgia, Brachial Neuralgia, Intercostal Neuralgia, Spinal Neuralgia, Neuralgia of the Stomach, Tic Douloureux.)

Neuralgia is a severe pain along the course of a nerve, unaccompanied by any change in the body of the nerve.

The Osteopath usually finds some bony or muscular lesion causing pressure on the nerve or on some of its connections. A misplaced vertebra is

a very common cause. In cases of facial neuralgia we expect to find contracted muscles in the neck or a misplaced atlas or axis, the first and second cervical vertebræ. Treatment for this would be as in Nos. 1, 3, 5. In brachial neuralgia, which involves the arm and shoulder, we look for lesions from the first cervical to the sixth dorsal. This will be treated as in Nos. 1, 3, 5, 9, 10, 11, 34, 43. All the upper spinal and neck tissues will be relaxed as in Nos. 5, 83, 34. Intercostal neuralgia is easily handled and is frequently caused by a twisted or misplaced rib or ribs too close together. Treat as in Nos. 75 to 89. Thoroughly relax all spinal tissues, as in Nos. 35, 36, 47, 48, 50.

Spinal neuralgia and neuralgia of the stomach will be caused by misplaced vertebræ, the stomach lesions occurring from the fourth to the eighth dorsal. See spinal treatments. Nos. 43, 34.

Tic douloureux is a neuralgia of one or more branches of the fifth nerve, and lesions are looked for in the upper dorsal and cervical regions. A misplaced atlas or axis is most frequently to blame for the condition. Treat as in Nos. 1, 3. Pay attention to the upper back tissues, as in Nos. 34, 43. In many cases a thorough abdominal treatment will be of assistance. See Nos. 94 to 100. In all cases of neuralgia or of neuritis the muscles and nerves should be relaxed.

In facial neuralgia, tic douloureux and brachial neuralgia a hot water bag may be applied to the back of the neck and the upper dorsal region. Tic

douloureux has been helped locally by the application of the inner skin of a fresh egg, sprinkled with black pepper. Some medical writers in cases of tic douloureux recommend one one-hundredth of a grain of nytroglycerine until relief is obtained.

PEDAL NEURALGIA.

(Neuralgia of the Feet. Tarsalgia.)

This is often caused by a broken-down arch of the foot. The patient should rest as much as possible. Let the shoes have broad, thick soles. Sometimes it is best to have a supporting arch, made of steel and covered with leather, for the instep. They may be found in many shoe stores. The foot should be manipulated. See Nos. 117, 118.

ERYTHROMELALGIA.

(Red Neuralgia of the Feet.)

This is a disease of the feet, characterized by pain and extreme redness of the feet. In some cases there is so much swelling that the patient is unable to walk. The condition is worse in warm weather. The disease is accompanied or generally followed by some disease of the spine or some severe nervous trouble.

From the medical standpoint the cause is unknown, but is due to a disturbance of nerve function due to pressure, disturbing nerve impulses.

The treatment should be directed to the removal

of any lesions found in the spine. A thorough relaxing treatment should be given in the lower dorsal and lumbar region. See Nos. 43, 36, 41, 48, 51, 52.

Should the pelvis or either innominate bone be out of place, proper correction should be made. See lesions of the pelvis and innominates. Work on the tissues of the legs, as in Nos. 113, 116. Perform circumduction and extension, as in Nos. 113, 114. Manipulate the foot, as in Nos. 117, 118, 119. Put the muscles on a torsion, as in Nos. 121.

Should there be any other disease it should receive its proper treatment. Some of these cases are badly constipated.

In some cases great relief is experienced by putting the foot in ice-cold water. Keep the feet elevated and rest as much as possible when the attack is severe.

INTERCOSTAL NEURALGIA.

(Pleurodynia. Muscular Rheumatism.)

This affection is generally classed as muscular rheumatism. It causes intense pain, which is aggravated by the breathing. The ribs should be separated and lifted up as in Nos. 86, 82.

Some of the hot applications should be applied as recommended in lumbago, which see.

TORTICOLLIS.

(Stiffneck.)

The muscles of one side of the neck are very stiff and sensitive, frequently drawing the head to the affected side. Lesions of the neck should be removed. These are the direct cause of the disturbance by making pressure on the nerve. When this pressure is removed a permanent cure should be effected. Thoroughly relax all tissues of the neck. See Nos. 1, 3, 5, 9, 10, 11, 12, 13. Replace any vertebra which may be out of its proper position. Nos. 1, 3. Local hot applications as in lumbago will be found to be helpful.

MUSCULAR RHEUMATISM.

This is a painful affection of the voluntary muscles in various parts of the body. The attacks follow exposure to cold, wet, and exposure especially after a severe bodily exertion. One attack renders others more liable. Some writers consider this disease a form of neuralgia, rather than rheumatism. The varieties of this disease are often named from the portion of the body affected, as lumbago, torticollis, pleurodynia, cephalodynia, etc., all of which see for treatment.

LUMBAGO.

This is a rigid, painful condition of the muscles in the lower part of the back. Stooping or turning the body or any sudden movement causes pain. It is caused by an affection of the lumbar vertebræ, causing an inflammation of nerves supplying the muscles of the back in this region.

Treatment. The muscles should be gently relaxed, as in Nos. 43, 44, 47, 48, 50, 52, 53, 57. The spine should be gently stretched and rotated, as in Nos. 58, 59, 60, 61. This is done for the purpose of taking the pressure off the nerves. Hot fomentations should be used. See treatment of acute articular rheumatism. Hot water bags may be applied, or sacks filled with hot salt or hops. A heavy piece of flannel may be applied and a warm flat iron may be used over it for a few minutes, literally ironing the back. This treatment is very efficient. Pressure is helpful.

Acupuncture has been highly recommended. Take an ordinary bonnet needle, three or four inches long. Sterilize it and thrust it into the lumbar muscle at the seat of pain. Leave it there for five or ten minutes. The needle should be thoroughly sterilized.

The best treatment, though, is the osteopathic, as outlined first, the manipulation of the spine and spinal muscles and ligaments. Those who suffer from periodic attacks of the disease may be permanently cured in this manner.

Long and successful experience in treating this disease has led me to believe that often we are wrong in ascribing the cause of this trouble to the poor alignment of the lumbar vertebræ. It is rather caused by poor circulation, that does not permit the venous blood properly to escape from the lumbar portion of the spinal cord which, in turn, overstimulates the spinal nerves and causes them to send too many nerve impulses. This makes the muscles which they supply over tense.

In many cases I have treated there would be immediate relief and the patient could make very free movements without any discomfort, but in a few hours the trouble would appear and give as much pain as ever. One evening I was called to treat a very strong and muscular young man, who had been suffering with lumbago for several days, and had it so severely that he could hardly move in bed. After treating him about one half hour in the regular way I discovered that about the only relief I could give him was steady pressure on the spine while he was lying face downward. The bed was rather low and he was lying on the side, when I applied some weight with both knees, and upon his saying, "Doctor, I feel it going out," I applied my entire weight and walked with my knees for fully five minutes on the lumbar portion of his spine. I weighed then over 200 pounds. But you must bear in mind that he was more than an ordinarily strong man.

He immediately arose from his bed and dressed and insisted on my remaining for dinner. His folks

looked upon his appearing at the table much as they would had a miracle been performed. He came to the office for further treatment, next day. The treatment was then applied with the knees for about five minutes, and there was no further return of the trouble.

This treatment inhibited nerve impulses and improved the circulation to the spinal cord.

MENTAL DISORDERS.

Insanity.

Insanity is a mental disorder marked by delusions, illusions and hallucinations, by changes in character and habits, and by unreasonable actions and language. It is more or less permanent in character, but without loss of consciousness or will.

There are many causes for some forms of insanity, which an Osteopath will fail to find. There are causes which his or any other form of treatment can not reach. But when the general treatment is given, paying particular attention to the cervical region, the patient will be benefited under Osteopathic treatment. Many cases of insanity are due to an accident of some kind in which the head or neck is involved. Many of these patients become mentally unbalanced at once, while others are affected gradually. The extent which Osteopathy will cover in this field of psycho-pathological conditions as a therapeutic agent is still unknown. Osteopaths are not given the opportunity to get hold of such patients in large number, but what experience they have had has been very gratifying.

I have known patients who had become violently insane as the result of an accident. It was necessary for strong men to hold them while an Osteopathic

treatment was being administered. After the treatment they would fall asleep. After waking they were entirely rational. A prominent Osteopath, before studying the science, was confined in an insane asylum in Iowa. In some way he became possessed with the idea that if he could get to an Osteopath he would be cured. He escaped, went several hundred miles in search of the treatment, and was entirely cured, after which he became a splendid Osteopath and enjoys a large practice.

My experience with insanity has been limited, but the treatment has proved very quieting and beneficial, even when the case was of long standing.

We may expect to find serious trouble in the neck, in vertebræ, ligaments and muscles. The deeper muscles here are very strong, and when they become tense as a result of some nerve irritation are often abnormally tense, and thus act as obstructions to various vital fluids. For the treatment read carefully all about the various treatments of the neck. The ribs and dorsal vertebræ should be carefully examined and treated.

In recent cases we may expect the best of results. In other cases look for considerable improvement.

ST. VITUS' DANCE.

(Chorea.)

Chorea is a disease characterized by an incoördinate movement and twitching of the muscles either local or general. There is often some slight psychical disturbance and great liability to endocarditis. About three-fourths of the cases are girls between the ages of five and seventeen. In many cases the disease is hereditary. Among the exciting causes may be mentioned fright, worry, grief, modern forced methods of education, eye diseases or weakness.

The Osteopath expects to find some anatomical lesions as a predisposing cause, the correction of which leads to the cure of the disease.

The symptoms manifested in chorea have such a wide range and are so varied in character that for convenience they are classified under three divisions in which the mild, severe and most severe or extreme cases are described. The disease generally attacks a hand with a jerky motion, then attacks the face, and later the legs. In the mild forms only the hand or hands and face are attacked. The child is restless, cries easily and often. There is headache and pains in the limbs. The patient loses the temper frequently and is easily frightened at night.

In the severe forms the trouble becomes more general in character. The speech is affected and the patient may be unable to dress and attend to

ordinary duties. The extreme form may develop into insanity.

Treatment. The disease yields most readily to osteopathic treatment. The lesions are usually in the upper dorsal and cervical regions. Muscular tissues are found in a tightened condition. Of course the first thing for the Osteopath to do as soon as possible is to remove the lesion. In addition, a thorough general treatment is indicated. See general treatment. Special attention should be given to the groups of muscles most affected. They should be thoroughly massaged, and the limb or arm, as the case may be, thoroughly manipulated. See Nos. 113, 114, 131. Treatment should be given daily until the patient is better, then three times per week and later twice per week. The cases ordinarily call for a long course of treatment.

Make sure that there are no intestinal worms, eye strain, sexual disorders, cause for worry, mental strain, overwork or severe muscular exertion. Attention should be given to the heart and bowels. See constipation. A soap suds enema may be used when necessary.

The Diet. Sweets and starches are better left alone, otherwise the patients may be encouraged to take as much nourishing food as they can digest. Meat, eggs, oysters, fish with plenty of green vegetables are recommended.

A warm bath on retiring and a cool sponge bath with a brisk rub on rising will be found to be beneficial.

EPILEPSY.

This disease is an affection of the nervous system, marked by attacks of unconsciousness occurring at irregular intervals. There may be convulsions. If they are severe general convulsions it is called Grand Mal. Localized convulsions, without loss of consciousness, is known as epileptiform, or cortical, or Jacksonian epilepsy.

Cause. Osteopaths find various spinal and rib lesions, which when removed have cured a fair proportion of cases. Syphilis and alcoholism, on the part of parents, are believed to be a prolific cause of this disease. In some cases it has been caused by worms, an adherent prepuce, foreign bodies in the ear or nose, or some other local affection setting up reflex influences.

Symptoms. Grand Mal. In most cases there is an aura or subjective symptom in some part of the body which warns the patient of the impending attack. This aura may be a peculiar sensation in the hand or foot or heart or stomach. With others it seems to be a flash of light or some form of perverted appetite. The patient often utters a cry or yell, the epileptic cry, and falls where he is as if shot. The first spasm, which lasts but a few seconds, is followed by convulsions, during which the patient may froth at the mouth. He may also lose control of the bladder and bowels. From this he passes into a sleep when he is in a relaxed condition. On awakening he complains of fatigue.

Petit Mal. The patient becomes unconscious for but a moment. The expression becomes blank and the face pale. A person talking to him will be conscious of the condition, but the patient is sometimes not. The patient does not fall and frequently picks up the thread of the conversation and continues it.

Jacksonian Epilepsy. A spasm that is only local and affects a hand or arm or a single group of muscles. There is generally an aura, but the conciousness is preserved.

Epilepsy may be distinguished from hysteria by the sudden onset with a cry, without apparant cause, the rigidity followed by convulsions and biting of the tongue. There may be defecation or micturition, but no talking.

Hysteria comes on gradually, with emotions preceding. If there is a cry it is during the attack. They bite other things than the tongue and talk frequently, but there is no micturition or defecation. The attack may be terminated by the use of water.

Treatment. The best osteopathic authorities have found various lesions from the neck to the lumbar region, including rib lesions, which have been the cause of the disease. The neck lesions are the most frequent, and we should make diligent search for them for the cause of the disease. At the time of the attack we need not expect to do much for the case. Strong treatment and pressure at the base of the skull, suboccipital fossæ, helps some cases (see No. 7B), while others are helped by treatment over

the solar plexus. See No. 100. Give a thorough abdominal treatment for the purpose of calling the blood away from the head. A thorough general treatment should be given at least three times per week. Lesions wherever found should be removed. See general treatment. Especial attention should be given to the neck treatment. See Nos. 1, 3, 5, 9, 10, 11, 13. Have the patient open the mouth against resistance. See No. 8. The clavicles should be elevated and the first rib depressed. See Nos. 72, 73, 75, 80.

The cervical sympathetic nerves should be treated. See No. 7C. The bowels and stomach should receive attention. See stomach. Stomach and intestinal indigestion may act as a cause by allowing the food to ferment and poison the system, causing autointoxication. The diet should be light and nutritious and easily digested. Indigestible food should be forbidden. See dyspepsia.

In children adenoid growths should be looked for, and in a male child if phimosis exists it may be necessary to perform circumcision, or at least to break up adhesions. Should there be evidences of digestive disturbances with constipation treat as such.

The Medical Treatment. With children 25 to 50 grains of sodium bromide are given per day, giving the larger part of it a short time before the seizure generally occurs. The dose is always largely diluted with water, say a glass three-fourths full. Should there be chronic constipation a dose of

calomel is recommended once per week, followed in a few hours by a dose of salts, an enema of salt water, a tablespoonful of salt to a quart of water, to be given twice per week. An adult may take a drachm to a drachm and a half of sodium bromide daily, sometimes at a single dose. This drug is best taken under the direction of a physician, as it must be taken a long time and the system must be saturated with it, certain diagnostic symptoms of which must be watched for and kept at that point.

By all means the osteopathic treatment as outlined above should be given a thorough trial first.

NEURASTHENIA.

(Nerve Exhaustion.)

Neurasthenia is a nerve disorder, in which there is nervous and bodily weakness. This is accompanied by irritability. The disease is very common in America. It is due to hereditary weakness, excessive expenditure of nerve force, and in most cases anatomical misplacements which impair nerves by pressure direct and interference with proper nutrition. Other causes are manifest, as, living at too rapid a rate, overwork, overstudy, worry, mental depression, the use of tobacco, alcohol, sexual overindulgence, indigestion, gout, rheumatism, la grippe and malaria.

The symptoms are many and varied and differ in different individuals. Headache is common and may be either at the base of the skull, in the fore-

head or in the top of the head. Some complain of a constricting band about the head. The memory is poor, the patient is afraid of places and things, and is irritable. There is pain in different parts of the spine. The limbs feel weak. The patient complains of hot flashes and has cold sensations. The flesh turns blue in spots. There may be constipation, indigestion, dyspepsia, palpitation of the heart and various affections of the eyes and ears.

Treatment. All lesions should be sought for and removed. A gentle general treatment may be given each day for awhile. Then three times per week, reducing to once per week, as the patient grows better. See general treatment. The treatment must be a searching one and complete. Warm baths twice per week at night. A cold sponge bath followed by brisk rubbing each morning will prove of benefit. Rest, with moderate exercise and good food, is essential. The treatment must be kept up for a long time.

SCIATICA.

(Sciatic Rheumatism.)

This disease is an inflammation or neuritis of the sciatic nerve, or of the nerve cords which form the sciatic nerve. In some cases it may be a neuralgia.

The pain frequently comes on gradually, but it may be sudden and very severe. At first it may be a dull pain in the back of the thigh, but later it may spread down the limb even to the bottom of the foot. In some cases it is complicated with lumbago.

The osteopathic treatment is directed to the removal of any lesions that may be present in the lower part of the back. The tissues are fully relaxed, as in lumbago. The work is carried down carefully over the affected nerve and limb, all tissues being thoroughly relaxed. See lumbago and Nos. 113, 51, 52. The pyriformis muscle, which lies across the trunk of the nerve, is frequently contracted and causes pressure on the nerve. This may be stretched by strong internal circumduction of the limb. See No. 114.

The nerve may be stretched carefully, as in No. 115. Careful treatment followed up in this manner will remove all irritation and result in a permanent cure.

Heat will prove beneficial, used along the course of the nerve by the application of the hot water bag. When the pain is severe an ice bag applied to the spine in the lumbar region will prove helpful.

HYSTERIA.

Hysteria is a functional disease of the nervous system. It is characterized by loss of self control, and accompanied by disorders of all or of a part of the bodily functions. It occurs most frequently in women and children.

Osteopaths look for the primary cause in some bony lesion of the spine, or ribs, or pelvic bones, or some malposition of some organ. The secondary causes may be emotional disturbances, mental or

physical strains, domestic troubles, masturbation, sexual excesses, ovarian or uterine diseases.

The symptoms cannot be said to follow any fixed rule, as a hysterical patient can imitate any symptom or diseased condition. The patient frequently feels a ball in the throat, which seems to come from below and produces a choking sensation. This is referred to in medical literature as "globus hystericus." There may be convulsions, after which the patient seems to be bloated with gas, and passes large quantities of urine. The voice is often lost and the various forms of paralysis are often simulated. The joints may become stiff and there may be spasms. Intense pain may develop in the head, spine, abdomen, or ovarian region and in the breast. There may be rapid and difficult breathing, vomiting and nausea. The temperature is nearly always normal.

Treatment. Particular attention should be given to the lower ribs. They are often found displaced, generally downward. See Nos. 90, 91, 92, 93. The intestines should be lifted up. See Nos. 96, 97. A general relaxing treatment should be given. See general treatment. Remove any lesions found in the spine or ribs. A change of enviroment may be helpful in many cases. The patient should be dealt with kindly, yet firmly. If possible, get the patient to exercise self control. A warm tub bath twice per week and a cold sponge bath every morning, followed by a brisk rub, will prove helpful. Out of door exercise should be taken each day. If a child,

avoid overstudy under competitive methods. Avoid over indulgence of every nature. Let the diet be plain, but there should be plenty of nutriment.

OCCUPATION NEUROSIS.

Telegrapher's cramp or telegrapher's paralysis, writer's cramp, or paralysis, pianist's paralysis, milker's paralysis, cigar maker's paralysis, are all due to the over-use of the nerves through the over-use of certain groups of muscles used in some occupations.

Osteopaths find, in most cases, some obstruction to the nerve force, through pressure, which acts as a primary cause of the difficulty. Sometimes the first, second and third ribs are too close together. Frequently the cervical and upper dorsal vertebræ are affected. In some cases the clavicle is too close to the first rib.

The very worst of these cases make good progress under osteopathic treatment. Remove the lesion in every case. All tissues in the neck, shoulder and arm should be relaxed as in a general treatment, which see. Stretch the elbow and shoulder joints. See Nos. 129, 130, 131. Give the arms thorough treatment. See treatment for arms, No. 131. See treatment for ribs and clavicles. Sometimes rest is necessary. The clothing should be loose. Let nothing interfere with the circulation.

PARALYSIS AGITANS.

(Parkinson's Disease: Shaking Palsy.)

A chronic nervous disease, characterized by tremor or rapid alternate contraction and relaxation of the muscles, a peculiar gait and speech and progressive loss of power.

The causes are found in spinal and upper rib lesions, which weaken the nervous system, rheumatism, rheumatoid arthritis, exposure, fright and mental anxiety. It is a disease that affects men more than women and is more frequently found between the ages of forty and sixty.

The first appearance is in a muscular tremor, generally of the forearm. The thumb and forefinger are approximated and have been spoken of as "the act of making a pill." The head is not often involved, but when it is the motion is a nodding one. When the patient is sleeping the tremors cease, and sometimes when the patient does something in which he forces the affected parts to act, the tremors are quiet but are resumed immediately when the act is completed.

In walking, the head is bent forward, the steps are short and hurried, gradually, in some cases, becoming faster until it seems as if the patient was about to fall. In severe cases he must stop and hold to something before getting a fresh start.

The face has a peculiar aspect, spoken of as "the mask-like expression," due to the set condition of the facial muscles. Ordinarily the disease has a

long, slow course and the patient generally dies of some other disease. One may not expect help of the regular medical treatment. The leading works on the subject offer no hope of a cure.

Treatment. The neck and the upper part of the back and the ribs should have a careful examination, and all lesions found should be carefully removed. See treatment of neck, spine, ribs and clavicles.

This disease has conditions that require a general osteopathic treatment. See general treatment. In addition to the removal of all departures from the normal which are found, the neck, shoulders and spinal tissues should be thoroughly relaxed. See Nos. 1, 5, 8B, 34, 43, 53. Give special attention to the treatment of the kidneys, liver and bowels.

Salt baths may be given twice per week. The patient should take exercise, but should stop before becoming very tired.

SPASTIC PARAPLEGIA.

This is a disease of the spinal cord, in which there is a loss of muscular power. There are exaggerated reflexes, a peculiar gait and precipitate micturition.

The disease is more apt to occur in a family with a nervous history. It is frequently brought on through exposure, accidents resulting in blows, falls, etc. It may also follow some of the acute diseases.

In most cases the onset of this disease is slow. Weakness of the lower limbs is a symptom. The patient complains of feeling tired and has increasing

difficulty in walking. The muscles frequently become rigid. This rigidity assumes the nature of a passing spasm. When the disease is further advanced the legs grow weaker and stiffer. When the patient walks the toes scrape the ground. The Osteopath looks for lesions along the spine, and examines the ribs to see that they are in a normal position and treats as in locomotor ataxia, which see.

LOCOMOTOR ATAXIA.

This is a nervous disease, caused by a hardening of the posterior columns of the spinal cord. The disease is characterized by loss of coördination of the muscles. When the patient stands with the heels close together, with the eyes shut, there is a tendency to fall (Romberg's symptom). With the arms stretched from the sides the patient is unable to approximate the forefingers with the eyes closed. The walking is peculiar. The limbs are lifted higher than necessary and brought down with vigor. There is a slight staggering and difficulty in walking at night. When lying, the patient finds difficulty in bringing the heel of one foot to the knee of the other leg. The muscles have a tendency to waste.

The disease is frequently a long time in developing, and may be in progress a number of years, with but little notice of the patient. There are occasional pains in the legs, slight changes in vision, often an impairment in sexual power, sometimes, though rarely, an increase. Later the pain in the limbs be-

comes more pronounced. There is a boring sensation, coming and going with great rapidity, termed lightning pains. The pupils fail to contract to light. To determine this symptom, darken the room for awhile. Then hold a lighted match before the patient's eye. The pupil, if it contracts at all, does so very slowly. This is known as the Argyll-Robertson pupil. There is loss of knee jerk. To determine this symptom, have the patient sit on the side of the table with the feet hanging, not touching the floor. Strike the tendon, just below the patella, a sharp blow with the edge of the palm of the hand. If in normal condition the foot will kick out. If there is probably locomotor ataxia it will remain stationary.

Diagnosis. The Argyll-Robertson pupil, Romberg's sign, lightning pains and absence of knee jerk are enough of the symptoms to determine that the patient has locomotor ataxia.

Prognosis. While but little can be promised as far as a cure is concerned, there are few if any cases that will not be helped and many may be helped to a large extent by osteopathic treatment. Of course, the earlier the treatment is begun the better. In a great many cases the progress has been checked. Control of bladder and rectum is regained, and many cases which had lost the power of walking regained this function under treatment.

Treatment. This disease requires a general spinal treatment, with special attention to all specific lesions of the spine and ribs. See general treat-

ment. The lower limbs should also receive careful attention and manipulation. Care must be taken not to fracture the long bones, as in this disease there is a predisposition to fracture. We must not forget thorough abdominal work. See Nos. 94 to 103. Special attention should be given to this. Tone up the solar plexus. The regular treatment should be given three times per week. The author would recommend as a home treatment, in addition to the above, each day the application of a long ice bag to the spine for fifteen minutes, followed by a hot water bag for fifteen minutes, then the ice again, followed by the hot water, in all an hour's treatment. This will serve to promote the circulation in the spinal cord. The application of the ice bag alone will help to relieve the lightning pains. It is well for the patient to exercise, but he must avoid overexertion.

The ataxia may be overcome in part by the continued practicing of fine movements. Some of these may be executed by the patient with the limbs as he lies on his back.

SICK HEADACHE.

(Migraine, Hemicrania, Cephalgia.)

Migraine is an intense headache, occurring frequently, with or without disturbances of vision or of nausea. Medical writers as a general rule claim that no lesions have been discovered, but Osteopaths frequently find neck lesions, also upper dorsal

lesions, the removal of which has resulted in cures.

The patient can tell for some time previous when an attack is to be expected, by the sensations and symptoms peculiar to each given case. The pain at the beginning of an attack is on both sides of the head, but after awhile it localizes on one side. With some patients the attack localizes on one side at one time; at the next time it localizes on the other side. Some cases continue from childhood to old age.

Most of the lesions have been found in the neck and upper dorsal region, though some have been found in the lower dorsal and lumbar regions. Stomach troubles, uterine misplacements, eye strain, and tumors are sometimes responsible. These causes must have special treatment.

Treatment. The neck must be thoroughly manipulated. See Nos. 1, 3, 5, 7, 9, 10, 11, 13. All spinal muscles and tissues should be relaxed. Nos. 4, 43, 48, 53. The abdomen should receive a deep inhibitive treatment. Nos. 94 to 99. Give heavy pressure over the solar plexus. No. 100. Misplaced vertebræ and ribs should be corrected. Tissues over the nerves in the face should be relaxed. Nos. 14, 20, 21. Work vigorously and deeply with thumb and finger on a line straight over the head, from the nose to the base of the skull at the back of the neck. See No. 16. Give heavy pressure on the skull. No. 15. Give heavy deep treatment at the base of the skull, on each side of the spine. This may be temporarily painful, but will be effective. No. 7B.

Pressure may be given in the upper dorsal region. No. 67. The clavicles should be raised. Nos. 72, 73. The treatment should be given deliberately, and is probably the longest that the Osteopath gives. Great relief should be given during the first treatment. A very general treatment will be helpful. See general treatment. Give particular attention to the stomach and bowels. The patient should avoid overexertion, as becoming tired acts as an exciting cause. A hot mustard foot-bath, heat at the base of the skull, and an ice bag on the forehead is often helpful. Should there be nausea, use the ice bag on the spine from the fourth dorsal down to the first lumbar vertebra. Some patients are helped by a cup of strong, clear coffee.

The drug treatment for this condition is very unsatisfactory. Headache powders, pills and the various pain killers are dangerous. The extract of cannabis indica is sometimes given for a long time, two or three times per day, in doses of a fourth to a third of a grain in hope of curing the condition. At the time of the attack the following pills are sometimes given:

Acetanilid .....20 grains.
Codein Sulphate .....5 grains.
Camphor monobromate .....5 grains.

Make of this ten pills and take one every two hours until relieved. The heart action should be watched when using these pills. Menthol pencils are used locally for the purpose of relieving the pain. Rub them over the seat of the pain.

TUMORS.

Fibroid Tumors, Benign Tumors, Malignant Tumors.)

Tumors of every nature have been removed by osteopathic treatment. In addition to those above, many uterine tumors, as well as ovarian and cystic tumors, fatty tumors, abdominal and intestinal tumors, even those supposed to be of cancerous nature, have been removed under the treatment. Especially good results have been secured with tumors of the breast.

The cause for most tumors will be found in some spinal or other bony lesion, or in some misplaced soft tissue which interferes with the nerve supply or with the circulation, especially of the venous and lymphatic drainage of the part affected. When the blood or lymph at any given point is obstructed, whether it be from a defective nerve supply or by direct pressure of some bone or organ, that blood or lymph often causes an abnormal growth or tumor.

Abdominal Tumors. In case the tumor is located in the abdomen it will be well to carefully examine the spine for any spinal lesions, and remove them, using Nos. 34, 43, 44, 36, 37, 41. The ribs must be carefully looked after and any misplaced ones must be corrected. See Nos. 81 to 93. The abdomen must be carefully treated, as in Nos. 94 to 100. Should there be enteroptosis (which see), that must be treated according to directions. In general, tumors should not be worked directly-over or massaged,

but they may be lifted up and their position carefully shifted and adjoining tissues may be manipulated. A general treatment is often advisable for the entire circulation and for the nervous system. Treat about three times per week. When better treat twice and once per week. The treatment in the main is directed to restore the proper circulation. In some cases the treatment must be continued for some time, but often the improvement is noted soon.

Uterine Tumors. Intrauterine, extrauterine or interstitial tumors are frequently removed by osteopathic treatment. The intrauterine tumor is frequently pedunculated, and at the menstrual period causes great pain, because the uterus at that time tries to expel it. The interstitial is a part of the enlarged wall and the extrauterine is on the outside of the wall and attached to it. These tumors are frequently caused by a misplaced uterus. This correction should be made by a well-qualified practitioner. Very frequently there is a luxated pelvis, or innominate bone, or a misplaced vertebra which, when corrected, restores the proper circulation and results in the removal of the tumor. In addition to the local corrective work necessary the spine and innominates may be treated. See Nos. 43, 51, 52, 57, 104 to 112. In addition to the above a general treatment, which see, will be found very beneficial as the patient is generally nervous.

Ovarian Tumors will require a careful examination of the lower spine and the removal of all lesions found, and the pelvis should be looked after and

treated in the same careful manner. See treatment for uterine tumors. The abdomen should be carefully treated as in Nos. 94 to 100. Lift up the tumor and carefully manipulate the tissues about it, but do not work directly over it.

Tumors and Nodules of the Breast. These are often caused by a misplaced rib or clavicle. See treatment for clavicles. Nos. 72, 73. Examine the ribs carefully, look for twisted ribs and ribs that are luxated in such a manner as to be too close together, and treat as directed under treatment for ribs. Lift up the ribs. See Nos. 81, 82, 86. Give the general treatment, which see. Many operations may be avoided in this way.

DISEASES OF THE EYE.

Impaired vision, weak eyes, pterygium, granulated lids, strabismus, atrophy of the optic nerve, blindness, cataract, diplopia, conjunctivitis, glaucoma, closed tear duct, astigmatism, keratitis, ptosis or drooping lids. All of these diseases of the eye are frequently cured osteopathically. The lesions are generally found in the cervical and upper dorsal regions. These lesions interfere with both the blood and nerve supply.

Treatment. The treatment would call for a thorough relaxation of all neck tissues. See Nos. 1, 3, 5, 7B, 9-11, 13. Relax all tissues in the upper dorsal region. See Nos. 34, 43, 53. The fifth nerve may be treated, as in No. 21. Pay attention to the

clavicles and first ribs. Nos. 73, 72, 75 to 80. Open mouth against resistance. See treatment of the ears and No. 8. With the lids closed considerable work may be done about the eye and in the bony cavity. In some cases, as in cataract, we may percuss over the eyeball, as in Nos. 20, 22, 25, 26.

All lesions in the cervical and upper dorsal vertebræ and in the corresponding ribs should be removed. Should it be advisable to use an antiseptic solution a four per cent boric acid solution may be used, or a bichloride of mercury solution, 1 to 5,000, may be used.

Conjunctivitis and trachoma, in addition to the osteopathic treatment, as outlined above, should be kept very clean with a boric acid solution. Should the case be very severe and there be evidence of infection it should each day receive an application of a silver nitrate solution (one per cent). Hot applications should be used, cloths wrung out of hot water and applied as can be borne. In cases of keratitis, there is great pain, an aversion to the light, considerable inflammation, redness. In addition to the osteopathic treatment, use hot water applications. Keep the eyes clean with a boric acid solution, four per cent. A thorough general treatment is indicated each day. See general treatment.

DISEASES OF THE EAR.

In cases of deafness the neck and back treatment are similar to the treatment in cases of diseases of the eye, which see.

In addition to the above, use peroxide of hydrogen to loosen wax, after which an ear syringe should be used to cleanse the external ear of any discharges or secretions which may have remained in it. The mouth of the patient should be opened against resistance. The operator stands at the head of the reclining patient, and with both hands under the chin of the patient who furnishes the resistance. It should be opened slowly against this two or three times. This greatly assists the circulation to both ears and eyes.

In case of earache, lie with the ear on a hot water bag. If the patient is an infant, breathe into the ear. In some cases of earache a glass ear tube with a recurrent flow is used, with the water at a temperature of about 100 degrees.

JOINT AFFECTIONS.

(Deformities. Slight Dislocations. Bow Legs.)

The various affections of joints have been very successfully treated by Osteopathy. In many cases a slight dislocation may be the real first cause of the trouble. In other cases the cause may have been rheumatism. Still other cases may be due to insufficient bone nourishment in youth.

In all such cases it is best to begin at the origin of the nerves supplying the joint in question. If the joint is below the waist the nerve supply is looked for in the lower dorsal and lumbar regions of the spine. If the trouble is in the arms or shoulder we

treat in the neck and as low down as the third and fourth dorsal vertebræ. Treat all the tissues down to the affected joint from its nerve supply. Work to secure a good nerve and blood supply as well.

Don't treat the joint too severely at first. Work to relax the ligaments of the joint. A gentle treatment is more successful in relaxing ligaments than a severe treatment. The joint may be stretched, rotated, bent and manipulated in all possible ways. Should there be a perfectly immovable joint it may be necessary to break it up under an anesthetic, but if there is some movement in the joint it is caused by a tightened condition of the ligaments rather than a bony ankylosis. Such a joint may be greatly improved, and in many cases complete restoration of function may be accomplished.

Slight dislocations may be manipulated and gradually forced back into their normal position. Of course, if the condition is one of long standing it may take some time. In recent cases the work may be frequently accomplished in a few minutes.

Bow Legs. This condition is often the result of weakness, sometimes rickets may cause the trouble. The case should be taken in hand early. Such cases do not get better of themselves. The spine should be treated as in Nos. 34, 43, 48, 50, 51, 52. The joint at the knee should be well manipulated. Give particular attention to the outside ligaments. One mother has the satisfaction of having a son with perfectly straight limbs who was badly deformed in childhood. The good result came as a

result of her own efforts patiently and consistently followed for some months. She rubbed the knees and especially the outside ligaments with salt water. She gave the treatment every night. This was before Osteopathy was known in her State. She exerted pressure to straighten the limbs at the same time.

Where the bend is just above the ankles the treatment in the back should be given as above. Thoroughly manipulate the limbs. Use pressure to straighten them daily. See treatment of limbs.

ARTIFICIAL RESPIRATION.

(Sylvester's Method.)

The patient is placed on his back, as in Fig. 106. It will be well to have the lower part of the body raised. The operator takes the arms near the elbow, as in the figure, and draws them forcibly outward and upward, where he holds them for two seconds to permit the air to enter the lungs, then the arms are brought down and pressed with considerable force against the sides of the chest for two seconds. These movements are made fifteen times per minute. See Figs. 106 and 107. It may be necessary in some cases to keep up the work for thirty minutes or more.

KUATSU AND SPONDYLOTHERAPY.

The Japanese have employed kuatsu in connection with jiujitsu for many centuries, as a method of resuscitation when a person was "knocked out" by the use of jiujitsu. In restoring a person to consciousness with kuatsu the patient is placed in the prone position and the operator strikes with his wrist on the seventh cervical vertebra a series of severe blows with regularity, the same as if a carpenter were striking blows with a hammer. See Fig. 109.

They now use it for persons who have suffered from sunstroke or drowning. It has been employed in this country, in a modified form, for the same purpose and for increasing the heart's action in emergencies. There has also been built up a system of treatment, based on kuatsu and a few of the principles of Osteopathy, for which a few claim considerable merit. Spondylotherapy claims to perform cures by percussing over certain areas of the spine in different diseases. This would appear to an Osteopath to be spinal stimulation. But it would fail to remove any definite lesions which were the original cause of the disease, and the effects would be only temporary.

The first effect of an Osteopathic lesion is over-

stimulation of the organ that later becomes diseased. The organ overworks itself and soon becomes a victim of this overwork. The lesion leads to a stimulation which finally becomes an irritation and the organ becomes diseased. After this stimulation the nerve fails to perform its function and more stimulation would only further weaken the nerve. It might be of some value in an emergency, but I fail to see its value in a chronic case. Osteopathy removes the lesion and restores the nerves, and thus the organs, to normal functioning.

FLAT FOOT.

Weak Arches, Broken Down Arches.

This trouble is due to general muscular weakness, to heavy strains, to lesions in the lower part of the back or innominate bones, which cause faulty attitudes, thereby straining supporting ligaments and interfering with the proper nourishment of the foot. Poorly-fitting shoes may be a causative factor.

When the arches begin to break down the pain is often ascribed to a sprain or rheumatism. Improper treatment is applied and when the patient is heavy the trouble becomes worse quite rapidly. There is pain along the inside of the foot. There may be pain in the heel; also the calf of the leg. This pain may extend to the knee. The circulation becomes poor, with all the attendant symptoms, numbness, cold and, at times, perspiration. The pain may be out of all proportion to the deformity and there may be considerable deformity with very little pain. The foot grows more deformed, becoming flat and rigid.

The treatment should be applied in such a manner as to secure pliability of the foot with the utmost freedom of motion. See paragraph 118, also Fig. 93. Several weeks will be necessary to accomplish this. In the meantime have the patient wear a shoe with low, flat heels and broad toes. When walking

it will be well for him to place most of his weight on the outside of the foot. The inside of the shoe sole may be built up a little. Careful exercise may be carried on with benefit, but it should be carried only to the point of fatigue. Walking with toes turned slightly in and upon tiptoes will be helpful. In some cases after a certain amount of pliability is secured a cast may be necessary. Braces may help, but the difficulty with them is they are hard to fit. The use of adhesive strips in holding up the arch after it has been placed into something like normal position is advocated by some, and in many cases the treatment is successful. A long course of treatment is required.

CRAMPS IN THE LEGS.

Many persons are affected with cramps in the legs, which prove very painful. They most frequently occur in the calf of the leg and attack a patient after retiring for the night. The cause of the trouble is too many nerve impulses going to the muscles of the leg. Overexertion in walking or running, or any occupation that would unduly excite the lumbar segment of the spinal cord, might result in this trouble. When we get too warm, by having too much cover in bed, contractions of the calf muscles may result. Many have found that by stepping upon the floor they obtained relief. This stretched the muscles, as the Osteopath does, as shown in Fig. 90A. At the same time he inhibits the nerves of the lumbar region, as is shown in Fig. 32.

An easier way, and one that will be just as effective, is to place a bag of ice or very cold water on the lumbar region of the spine. This will give instant relief.

DISORDERED SWEAT GLANDS.

This trouble is characterized by perspiration that is excessive or absent, fetid or accompanied by small vesicles upon the skin, accompanied by much sweating. The scientific names for this disturbance, in the order given above, are hyperidrosis, anhidrosis, bromidrosis and sudamina.

This trouble is caused by impairment of the nerve supply to the sweat glands, and as it is not certainly known where these centers may be found we give a thorough general treatment about twice per week. The founder of Osteopathy, Dr. A. T. Still, recommends that the facia all over the spine be thoroughly loosened, much as would be indicated in Figs. 48, 50 and 51. See the pictures. In cases of unilateral sweating pay particular attention to loosening the structures of the neck. See neck treatment. The above treatment is recommended in cases of sweating of the feet and axilla.

ACNE AND COMEDO.

Pimples and Black Heads.

The acne is distended sebaceous follicles found mostly on the face and eyelids. They are small, white, opaque, seedlike grains. The black heads are small, sebaceous plugs, found mostly on the face, neck, chest and back. The former may be punctured and both should be squeezed out.

The cause is very obscure from the medical standpoint. Osteopathy regards them as being caused by poor nerve supply and deficient circulation to the skin and superfical fascia. Upon improving the circulation and bettering the nerve supply they disappear.

The treatment is largely directed to the neck. The muscles are well worked and kneaded, and some treatment, though not so severe, is given to the face or part affected. Treat about twice per week for a while and then once per week. If there are any indications of constitutional weakness a general treatment is indicated.

HICCOUGH, OBSTINATE.

Hiccough is a reflex spasm of the diaphragm with simultaneous closure of the glottis. It is a very distressing trouble and if continued for several days may prove fatal. I have noted cases that stopped while the patient slept and began upon awakening. It is sometimes very difficult to cure. In the milder forms a sudden reflex irritation will cure at once. A teaspoonful of salt and lemon juice has been recommended. Salt and vinegar will do as well. Strong traction on the tongue may cure.

The Osteopathic treatment calls for a thorough relaxing of the neck muscles. I have found cases where the hyoid bone was pulled backward and downward and relief was secured at once by forcibly elevating the bone with the fingers. Sometimes firm pressure is to be applied upon the phrenic nerve, over the scalenus anticus muscle. This inhibits the action of that nerve. The same effect may be obtained by the application of cold. This nerve enervates the diaphragm.

EPISTAXIS.

Nose Bleeding.

Bleeding from the nose may occur from a variety of causes—injuries, nasal diseases and erosions. It may be caused by general conditions, as in the case of delicate children about the age of puberty. In stout persons it may indicate liability to apoplexy. It is common in ascending heights, as in mountain climbing, or ascending in balloons. Bleeding from the nose precedes typhoid fever and is common in anæmias. In cases of suppression of the menses the epistaxis is sometimes vicarious.

The treatment in most cases is very simple. In many cases it stops itself. In case the bleeding is obstinate, hot or cold water may be injected into the nose. Alum, an astringent, may be used. A mechanical form of treatment will be simply to hold the hands of the patient above his head. The operator may place his thumbs just beneath the nose, on the upper lip, and his forefinger in the notch of the facial artery, which is found about one-half an inch forward of the angle of the lower jaw. Pressure may be made here for five minutes and repeated if necessary. This form of treatment is illustrated by Fig 23 A. When the bleeding is very bad and obstinate it will be well to plug the posterior nares, using absorbent cotton which has been well saturated with alum water or tannin and glycerine. Remove on the third day and renew if necessary.

SUNSTROKE. HEAT-EXHAUSTION.

Sunstroke is caused by excessive exposure to heat. Any factor that lessens the bodily resistance to a high temperature will predispose to sunstroke. Exhaustion of mind or body, excitement or worry, accompanied by unsanitary conditions, overeating, alcoholism, previous attacks, when coupled with exposure to extreme heat will bring on the condition. When the atmosphere is hot, still, sultry and humid, working hard in the direct rays of the sun predisposes to heat-stroke. It may be brought on by labor in poorly-ventilated, excessively hot, close and confined places.

The symptoms come on suddenly. There may be loss of consciousness and the face is flushed, while there is full, rapid pulse. The skin is hot and dry. The temperature is from 100 to 106. In fatal cases the coma becomes deeper and deeper, the pulse is more rapid, and the temperature may reach from 106 to 115. Heat-exhaustion may have more warning symptoms. There may be headache and nausea, with faintness and thirst. The extremities may have numbness and tingling. These symptoms will be followed by great muscular weakness and prostration. There will be clamminess and coldness of the surface, with pallor and a small, rapid pulse. In grave

cases there may be collapse. The temperature is at first subnormal, 95 to 97, though in some cases there may be a mild fever, ranging from 100 to 102. We look for such cases to recover in one or two days and with prompt treatment in a few hours. When the patient is weak death may take place.

Treatment. Notice the difference in treating the two cases. In sunstroke, promptly place in an ice bath, with plenty of ice in the water. Reduce the temperature to 101. Take from the bath and rub the patient dry. Then thoroughly loosen all spinal muscles. See paragraphs 47, 48, 49, 53, 54, 56, 57, 58, 59, 60. All of these movements may not be necessary in some cases, but use as many as you need thoroughly to relax all spinal tissues. Pay especial attention to the neck. See that there are no contracted tissues in the neck. See paragraph 5, also use paragraph 7 as indicated in Fig. 7B. Also Figs. 8 and 9A. Give an inhibitive, relaxing treatment to the abdomen. See paragraphs numbered from 94 to 100. In case the temperature is again rising, repeat the bath, but do not lower the temperature below 101. To lower the temperature an ice water enema is a useful help. Use an ice cap for the head, and give a liquid diet for several days. In case of **heat-exhaustion** get the patient into the shade in a cool place. Loosen all clothing, especially about the neck. If the temperature is subnormal use a **warm** bath. Give a little brandy and treat Osteopathically as in sunstroke.

Extra precaution should be taken in warm weather

by those who do physical work. Sleep in a well-ventilated room. Bathe frequently. Avoid alcohol and heavy eating. Stop work and seek the shade at once if sweating stops. Wear cool, wet cloths or green leaves inside a light hat.

ALCOHOLISM AND DRUG HABITS.

Morphine, Cocaine and Cigarette Habits.

Alcoholism is accompanied by profound tissue changes in various parts of the body. It often results, when long continued, in a chronic inflammation of the liver, stomach, heart, blood vessels and kidneys. Neuritis, epilepsy and paresis may be caused by the disease.

The drug habits produce changes in the nerves and operate to change the character of the patient.

In treating alcoholism we give a thorough general treatment each day for about two weeks, and after that every other day for from one to three months. Should there be constipation, liver or kidney troubles, special treatment should be given for these diseases. We give special attention to the treatment of the pancreas, spleen and liver. In treating the spleen and pancreas the location for spinal work is the same as for the liver. In working over the spleen we treat the same as for the liver, remembering that they are on opposite sides of the body.

The founder of Osteopathy believes that the chronic drinker has the thirst for liquor in a more aggravated form because there is some failure of the system to supply healthy fluids, and the thirst for alcohol is nature craving a substitute. While the patient is undergoing the treatment he should be well

fed. The system must be well nourished and built up. Allow beef tea and malted milk with red pepper to be taken when the thirst for strong drink is excessive. Treating such cases is not very pleasant work, but there is great satisfaction in saving such men to their families.

The doctor must use considerable firmness and tact in dealing with these cases. Each one is different and requires different treatment. One man was made to promise that he would come to me when he had to have a drink. I promised to give it to him and did so, but he was eventually cured. One man after he had been under treatment for a week said he felt as if his delirium tremens was coming on again (he had been confined for this cause). He begged for a quart of whiskey. In the presence of his wife, who had accompanied him to the office, I told him he might take a quart home. He consumed three-fourths of it that night. A little over a year after this he was accidentally killed, but he had never touched a drop of whiskey since that night.

In treating the drug habits the same treatment as for alcoholism is given. Morphine must be gradually withdrawn. Coffee may be used as a stimulant. The cocaine habit is, perhaps, the most difficult to overcome. Its victims are most pitiful. The drug must be gradually withdrawn. Great excitement, sometimes paranoia, follows its discontinuance. The treatment will be best given in an institution where you can have absolute control of the patient.

WORMS.

Tape Worms (Cestodes), Round Worms (Ascaris Lumbricoides), Pin Worms (Oxyuris Vermicularis), Thread Worms.

Tape Worms. There are two varieties, in the United States, of tape worms, the tænia solium and the tænia saginata. They are allowed to secure an entrance into the system by eating raw or partially cooked beef or pork, which had previously become a host for the eggs of the worm. There are numerous symptoms, but the only sure method of diagnosis is to find segments of the worm which have been passed in the stools.

There is a long list of drugs that are effective, the best of which is the oleroesin of the male fern. This should be given in a capsule. For a child ten years old the dose should be 15 minims, four of which should be taken at hourly intervals. Immediately after the last dose take one-half an ounce of castor oil. Very little should be eaten the day before, and a dose of salts should be taken the previous evening. Nothing should be eaten in the morning when the treatment begins.

An adult may take a two-drachm dose of the ethereal extract of the male fern, followed in two hours by an active purge. When the worm is being passed warm water should be placed in the commode. This keeps the worm from contracting and breaking.

Another splendid remedy is to take three or four

ounces of pumpkin seeds, bruise and macerate them for half a day. This infusion is to be taken after a fast, and the bowels thoroughly cleansed by a salt-water injection and a dose of Epsom salts. Follow the infusion of pumpkin seeds in an hour by a thorough purge. Unless the head of the worm is expelled the segments will again appear in the fæces in about three months.

Round Worms.

These are small and round, from five to ten inches long, tapering at the ends, grayish in color, with sometimes a pink tint. Generally there are from two to ten of them, but there may be many more.

Sometimes they migrate, enter the stomach and are vomited. They have been known to enter the nose, the middle ear and the bile duct. They cause a number of nervous symptoms. Positive evidence of their presence is their appearance in the stools.

The best remedy is sanotin. A one-grain dose is enough for a child five years of age, and three should be given at hourly intervals in the powdered form, mixed with pulverized sugar. This should be preceded by a day of fasting and a dose of salts at night and next morning. After it acts the remedy may be given, and should be followed by an active purge, say one-half ounce of castor oil.

Pin Worms.

They are very much like short pieces of white thread. The worm is from one-sixth to one-third of an inch in length and tapers toward the tail.

These worms cause intense itching, usually at night, because they migrate to the anus and to the genital organs, where they cause inflammation and may lead to masturbation. Large quantities of mucus may be discharged from the bowels. Irregular nervous symptoms may be caused, which sometimes lead to convulsions. The worms may be found in the fæces or on the person near the rectum.

Treatment. Cold injections of strong salt water are very helpful. Strict attention must be given at all times to absolute cleanliness, to avoid reinfection. A solution of bichloride of mercury, 1 to 10,000, may be used to bathe the anus two or three times per day. This is also a splendid injection, and may be used after an injection in which one teaspoonful of borax to a pint of water has been used, to remove the mucus. After the mucus comes away use about half a pint of the bichloride of mercury solution. Retain as long as possible and repeat every third or fourth night. On the other evenings use the salt water injections and occasionally give a dose of Epsom salts.

One very obstinate case was cured by using as an injection a decoction of garlic. At the same time large quantities of garlic were used by the mouth.

The itching may be allayed by the use of carbolized vaseline.

CHILBLAINS.

When the chilblains affect the feet, care should be taken to keep up a good circulation. Loose shoes, with woolen stockings, should be worn. Frequent bathing, followed by vigorous friction, will be of value. An occasional application of a liniment composed of equal parts of turpentine and olive oil may be rubbed on at night.

The itching may be allayed by rubbing in the following ointment:

Powdered camphor .....1 dram.
Ichthyol .....1½ drams.
Lanolin .....½ dram.
Cosmolin .....4 ounces.

FROST-BITE.

A person with any part of the body frost-bitten should not be brought into a warm room. The part, if recently frozen and red in color, should be rubbed with snow or with cloths dipped in ice water until the redness disappears. If the person is nearly frozen to death, induce breathing by using the methods for artificial respiration, which see. See Figs. 106, 107. Rub him thoroughly with flannel saturated with whiskey. Apply vigorous pressure on the spine between the shoulders, as in No. 67. Give an

enema of brandy and water. When possible administer brandy by the mouth. Give warm drinks, as coffee, beef tea, etc. As the patient improves the temperature of the room may be raised.

CORNS.

These are the result of pressure or friction, and when the irritative cause is removed the corn will disappear. Salicylic acid is the basis of nearly all corn cures. A valuable preparation is:

Salicylic acid .....1½ drams.
Extract of cannabis indica ..10 grains.
Collodion .....1½ drams.

This may be painted over the corn daily, preferably at night, and carefully scraped away in the morning.

If the feet are very much inflamed a very grateful treatment will consist of a thorough cleansing with ethereal soap. Soak in hot water and wrap them in cloths which have been soaked in the following:

Linseed oil .....2 ounces.
Lime water .....2 ounces.
Spirits of camphor .....1 dram.

Soft corns may be treated by washing the feet thoroughly with ethereal soap. After drying carefully remove the dead and loosened skin. Dust the toes with borated talcum powder and place a thin layer of absorbent cotton between.

BURNS.

Sun burns, or burns slight in character, may be kept moistened with a saturated solution of bicarbonate of sodium (common baking soda). When the burn is more serious the following ointment should be used:

Iodoform .....20 grains.
Antipyrin .....75 grains.
Boric acid .....75 grains.
Vaseline .....1½ ounces.

Burns of a very serious nature call for immediate surgical attention.

IVY POISONING. POISON OAK.

Portions of the body exposed are often covered with blisters. There is great swelling, itching and burning. Apply the following solution:

Grindelia robusta .....4 drams.
Water .....1 pint.

Later a salve made as follows may be applied:

Carbolic acid .....10 grains.
Boric acid .....30 grains.
Petrolatum .....1 ounce.

WARTS.

For warts on the face apply each day some of the following prescription:

Subliminal sulphur .....5 drams.

Glycerine .....1½ drams.
Acetic acid .....2½ ounces.

For warts on other parts of the body a very effective application is to paint daily with the following:

Corrosive sublimate ....½ of a dram.
Collodion .....15 drams.

It is a well known fact that if a wart is kept constantly wet with castor oil it will frequently drop off and disappear. Another useful application is:

Resorcin .....30 grains.
Alcohol .....1 ounce.

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